

# AFGHAN NATIONAL POLICE

## STANDARD BUILDING DESIGNS

## GUARD SHACK

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## S2 DESIGN CRITERIA & SCHEDULES

### S3 FOUNDATION & ROOF FRAMING PLANS

## S4 SECTIONS AND DETAILS

## S5 TYPICAL DETAILS

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E2 DETAILS

### E3 LIGHT FIXTURE SCHEDULE

E4 PANEL SCHEDULES AND RISER DIAGRAM



US Army Corps  
of Engineers

Afghanistan  
Engineer  
District

[illegible]

DESIGNED BY: JDS	DATE: 09-30-09
TOWN BY: JDS	SUBMITTED BY: BAKER
CHECK BY: JDS	FILE NO.: ANPSDC-001XXX

**Michael Baker Jr., Inc**  
A unit of **Michael Baker Corporation**  
Airside Business Park  
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Moon Township PA 15108  
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AFGHAN NATIONAL POLICE  
STANDARD DESIGN  
GUARD SHACK  
COVER SHEET

SHEET  
REFERENCE  
NUMBER:

G1

100% SUBMISSION

[illegible]





1. FINISH FIRST FLOOR ELEVATION SHALL BE (DATUM 0.0) ALL PLUS OR MINUS DIMENSIONS INDICATED ON PLAN OR REFERRED TO IN NOTES RELATE TO FINISH FIRST FLOOR ELEVATION.
2. TOP OF EXTERIOR FOOTINGS SHALL BE -600 UNLESS OTHERWISE INDICATED.
3. UNLESS OTHERWISE INDICATED, FLOORS SHALL BE 150 THICK CONCRETE SLAB-ON-GRADE W/ 13 DIA REBAR @ 450 OC EW (38 CLR TOP) OVER 100 COMPACTED POROUS FILL (#57 STONE)
4. REFER TO SHEETS S1 & S2 FOR STRUCTURAL NOTES, ABBREVIATIONS AND SYMBOLS.
5. REFER TO ARCHITECTURAL SHEETS FOR MASONRY PARTITION TYPES AND SHEET S5 FOR REINFORCEMENT.
6. SEE MECHANICAL AND ELECTRICAL SHEETS FOR CONCRETE PAD LOCATIONS, SIZES, AND THICKNESS NOT SHOWN. SEE SHEET S4 FOR DETAILS.
7. REFER TO SHEET S5 FOR TYPICAL MASONRY WALL DETAILS.
8. COORD W/ ARCHITECTURAL SHEETS FOR COLD-FORMED STEEL OVERBUILT FRAMING ABOVE ROOF SLAB.
9. COLD-FORMED METAL OVERBUILT ROOF FRAMING NOT SHOWN FOR CLARITY. SEE FRAMING DETAILS AND SECTIONS ON SHEET S4.
10. "SW#" DENOTES MASONRY SHEAR WALL LOCATIONS. SEE "SPECIAL REINFORCED MASONRY SHEAR WALL ELEVATION ON SHEET S5 FOR REINFORCEMENT INFORMATION.

[illegible]

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FOUNDATION & ROOF FRAMING PLANS

SHEET  
REFERENCE  
NUMBER:  
  
S3

UNLESS OTHERWISE NOTED, LINEAR DIMENSIONS SHOWN ARE IN MILLIMETERS (MM)

0 1000 2000 4000

SCALE: 1: 50

100% SUBMISSION












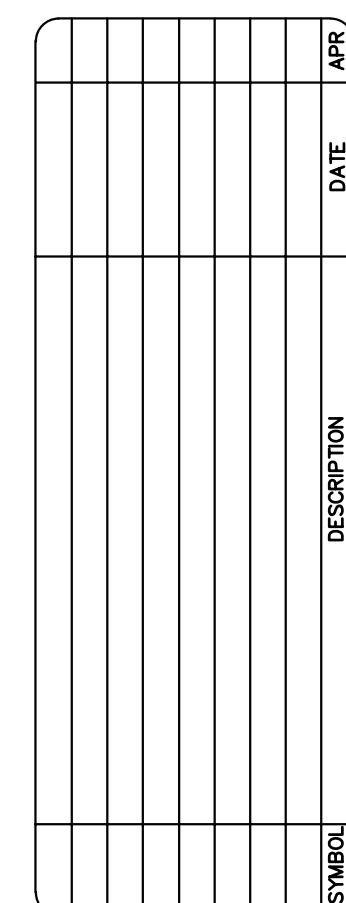


- A. OPENINGS FOR DOORS SHALL BE LOCATED 200 MM FROM THE ADJACENT WALL UNLESS NOTED OTHERWISE
- B. SURFACES TO BE PAINTED SHALL BE CLEAN AND FREE OF FOREIGN MATTER BEFORE APPLICATION OF PAINT. CLEANING SHALL BE SCHEDULED SO THAT DUST AND OTHER CONTAMINANTS WILL NOT FALL ON WET, NEWLY PAINTED SURFACES.
- C. CONCRETE AND INTERIOR MASONRY SURFACES GROUTED SOLID SHALL BE ALLOWED TO DRY AT LEAST 30 DAYS BEFORE PAINTING EXCEPT CONCRETE SLAB ON GRADE WHICH SHALL BE ALLOWED TO CURE 90 DAYS BEFORE PAINTING.
- D. PAINTS CONTAINING LEAD IN EXCESS OF 0.06 PERCENT BY WEIGHT OF THE TOTAL NONVOLATILE CONTENT SHALL NOT BE USED.
- E. MERCURIAL FUNGICIDES SHALL NOT BE USED IN OIL-BASE PAINT.
- F. REMOVE LOOSE DIRT AND CLEAN SURFACES BEFORE PAINTING. APPLY PAINT TO INTERIOR STRUCTURAL RIGID FRAMINGS AND CEILINGS AND TEST FOR ADHESION. PRIMER COAT FOR MASONRY. INITIAL FIRST COAT WITH AN ACRYLIC LATEX PAINT FOR EXTERIOR SURFACES AND A SECOND COAT WITH A WATER REPELLENT ACRYLIC LATEX PAINT.
- G. METAL DOORS AND FRAMES SHALL RECEIVE A PRIMER COAT PLUS TWO COATS OF PAINT.
- H. DIMENSIONS ARE TO STRUCTURAL COLUMN GRID, EDGE OF WINDOW OPENINGS, AND TO HINGE SIDE OF DOOR OPENINGS.

1. CONCRETE STOOP - RE: DETAIL 7/A3
2. LINE OF ROOF OVERHANG ABOVE
3. CORRUGATED METAL ROOF PANELS ON  
COLD-FORMED METAL FRAMING.
4. RIDGE VENT
5. LINE OF BUILDING WALL, BELOW  
METAL GUTTER
6. TWO-PIECE WALL THIMBLE AND TRIM PLATE FOR  
OPTIONAL WOOD BURNING STOVE CHIMNEY PIPE.  
STOVE AND PIPE BY OTHERS.

1. WALLS: PAINTED PLASTER,  
FLOOR: SEALED CONCRETE  
CEILING: PAINTED PLASTER APPLIED TO STRUCTURE

	DOOR TYPE, SEE SHEET A3
	WINDOW TYPE, SEE SHEET A3
	KEY NOTE
	FIRE EXTINGUISHER CABINET
	ROOM FINISH TYPE DESIGNATION



DESIGNED BY: PFF	DATE: 09-30-09
OWN BY: ECN	SUBMITTED BY: BAKER
CHK BY: NLJ	FILE NO.: ANPSDA-101XXX

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AFGHAN NATIONAL POLICE

## FLOOR AND ROOF PLANS AND DETAILS

A1

100% SUBMISSION



 EAST ELEVATION  
SCALE: 1:50

3  
A1 | A2

WEST ELEVATION

SCALE: 1:50

5  
A1 | A2

**BUILDING SECTION**

SCALE: 1:50

 NORTH ELEVATION  
SCALE: 1:50

 **SOUTH ELEVATION**

THIMBLE DETAIL, TYPICAL

SCALE: 1:10

6  
A2 | A2

WALL SECTION

SCALE: 1:20

8  
A2 | A2

THIMBLE DETAIL, TYPICAL

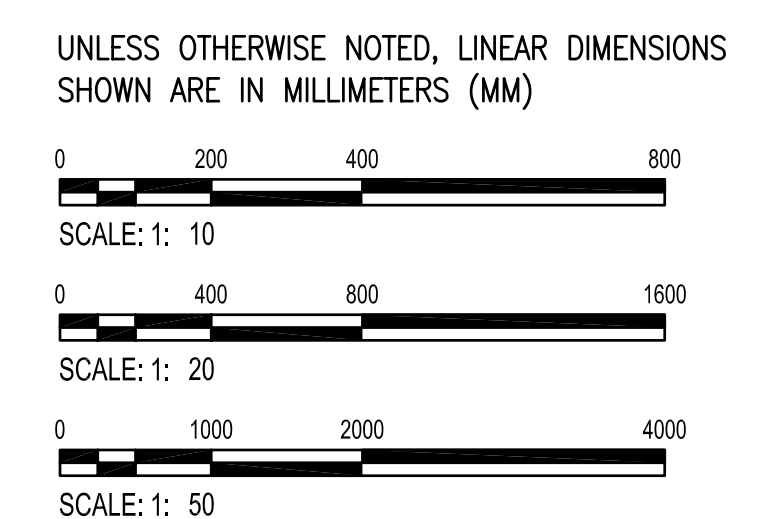
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GENERAL NOTES:

- A. COORDINATE SIZE AND LOCATION OF OPENINGS FOR MECHANICAL ITEMS WITH MECHANICAL DRAWINGS.
- B. PROVIDE STRUCTURAL LINTELS AS REQUIRED - RE: STRUCT
- C. PROVIDE 480 MM SQUARE, 1.5 MM THICK GALVANIZED SHEET METAL COVER WITH 13 MM HEMMED EDGE FOR WALL THIMBLE UNTIL STOVE PIPE IS PROVIDED. INSTALL COVER ON EXTERIOR FACE OF THIMBLE TRIM PLATE. COVER SHALL BE SET IN SILICONE SEALANT AND FASTENED WITH 4 STAINLESS STEEL SCREWS. ALIGN FASTENER LOCATIONS WITH COVER PLATE FASTENER OPENINGS SO ADDITIONAL FASTENER PENETRATIONS ARE NOT CREATED IN EXTERIOR FINISH.

KEY NOTES:

1. STUCCO AND RIGID INSULATION SYSTEM ON CMU
2. CORRUGATED METAL ROOF PANELS ON COLD-FORMED METAL FRAMING
3. METAL CUTTER
4. METAL DOWNSPOUT WITH SPLASH BLOCK
5. RIDGE VENT
6. TWO-PIECE WALL THIMBLE AND TRIM PLATE FOR OPTIONAL WOOD BURNING STOVE CHIMNEY PIPE. STOVE AND PIPE BY OTHER

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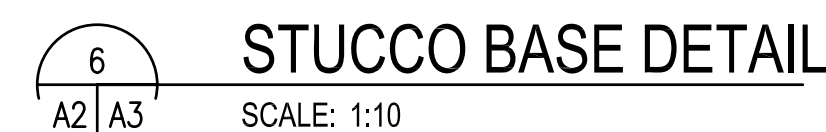
EXTERIOR ELEVATIONS,  
BUILDING AND WALL SECTIONS

SHEET  
REFERENCE  
NUMBER:

A2

100% SUBMISSION





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graph TD
    DT[DOOR TYPE] --> N2F15((2F.1.5))
    FT[FRAME TYPE] --> N2F15
    HDW[HDW TYPE] --> N2F15
  
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0 200 400 800

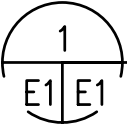
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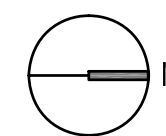
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SCALE: 1:50



1 PANEL L.



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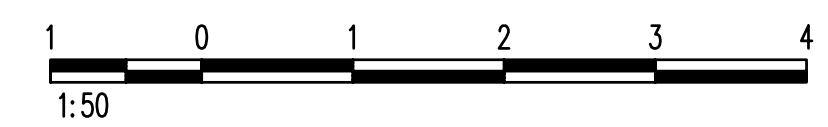
## LIGHTING AND POWER PLAN

SHEET  
REFERENCE  
NUMBER:

E1

100% SUBMISSION

UNLESS OTHERWISE NOTED, LINEAR DIMENSIONS  
SHOWN ARE IN MILLIMETERS (MM)







A

B

C

D

E

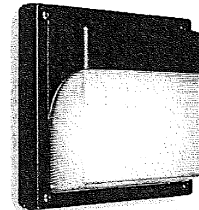
F

G

H

6

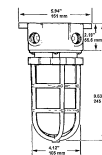
FIXTURE MARK 'C'



INCANDESCENT ONE PIECE WITH  
APPROVED LENS, STABILIZED HIGH  
IMPACT POLY CARBONATE

5

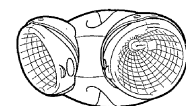
FIXTURE MARK 'D'



SURFACE MOUNTED, SINGLE LAMP  
220-240V INCANDESCENT FIXTURE  
RATED FOR 100W LAMPS. GLASS  
GLOBE SHALL BE VAPOR TIGHT JELLY  
JAR TYPE WITH WIRE GUARD. NOMINAL  
DIMENSIONS ARE 111MMx251MM

4

FIXTURE MARK 'H'



REMOTE HEAD EXTERIOR LIGHT HEAD  
POWERED FROM EXIT SIGN BATTERY-  
12V DOUBLE HEAD CORROSION  
RESISTANT WITH UL34 WEATHERPROOF  
CONSTRUCTION

3

FIXTURE MARK 'E'



UNIVERSAL MOUNT ENGINEER GRADE  
THERMOPLASTIC HOUSING EXIT SIGN WITH  
LED LAMPS, RED LETTERS 6" IN HEIGHT  
WITH ARROWS AS INDICATED, WITH 12V  
CADMIUM BATTERY

2

1

## LIGHTING FIXTURE SCHEDULE

LIGHTING FIXTURE SCHEDULE					
FIXTURE MARK	STYLE NUMBER AND TYPE	NUMBER AND TYPE OF LAMPS	VOLTAGE	MOUNTING	NOTES
C	INCANDESCENT ONE PIECE W/ APPROVED LENS STABILIZED HIGH IMPACT POLY CARBONATE.	(1) A19 - 100W INCANDESCENT	220V - 1Ø 50HZ	WALL MOUNTED ABOVE EXTERIOR DOORS	
D	SURFACE MOUNTED SINGLE LAMP 220-240V INCANDESCENT FIXTURE RATED FOR 100W LAMPS. GLASS GLOBE SHALL BE VAPOR TIGHT JELLY JAR WITH WIRE GUARD. 111MM-251MM	(1) A21 - 100W COATED INCANDESCENT	220V - 1Ø 50HZ	SURFACE MOUNTED FROM ROOF STRUCTURE	MEETS INTERNATIONAL STANDARDS WITH ENCLOSED AND GASKETED RED LENS.
H	REMOTE HEAD EXTERIOR LIGHT HEAD POWERED FROM EXIT SIGN BATTERY- 12V DOUBLE HEAD CORROSION RESISTANT WITH UL34 WEATHERPROOF CONSTRUCTION	(2) 12W/12V HALOGEN LAMP	12V - 1Ø 50HZ	EXTERIOR WALL MOUNTED AT TOP OF DOOR HEIGHT	
E	UNIVERSAL MOUNT ENGINEER GRADE THERMOPLASTIC HOUSING EXIT SIGN WITH LED LAMPS, RED LETTERS 6" IN HEIGHT WITH ARROWS AS INDICATED, WITH 12V CADMIUM BATTERY WITH REMOTE HEAD CAPABILITY	LED LAMPS	220V - 1Ø 50HZ	UNIVERSAL MOUNTING	



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## EXERCISES

SHEET  
REFERENCE  
NUMBER:

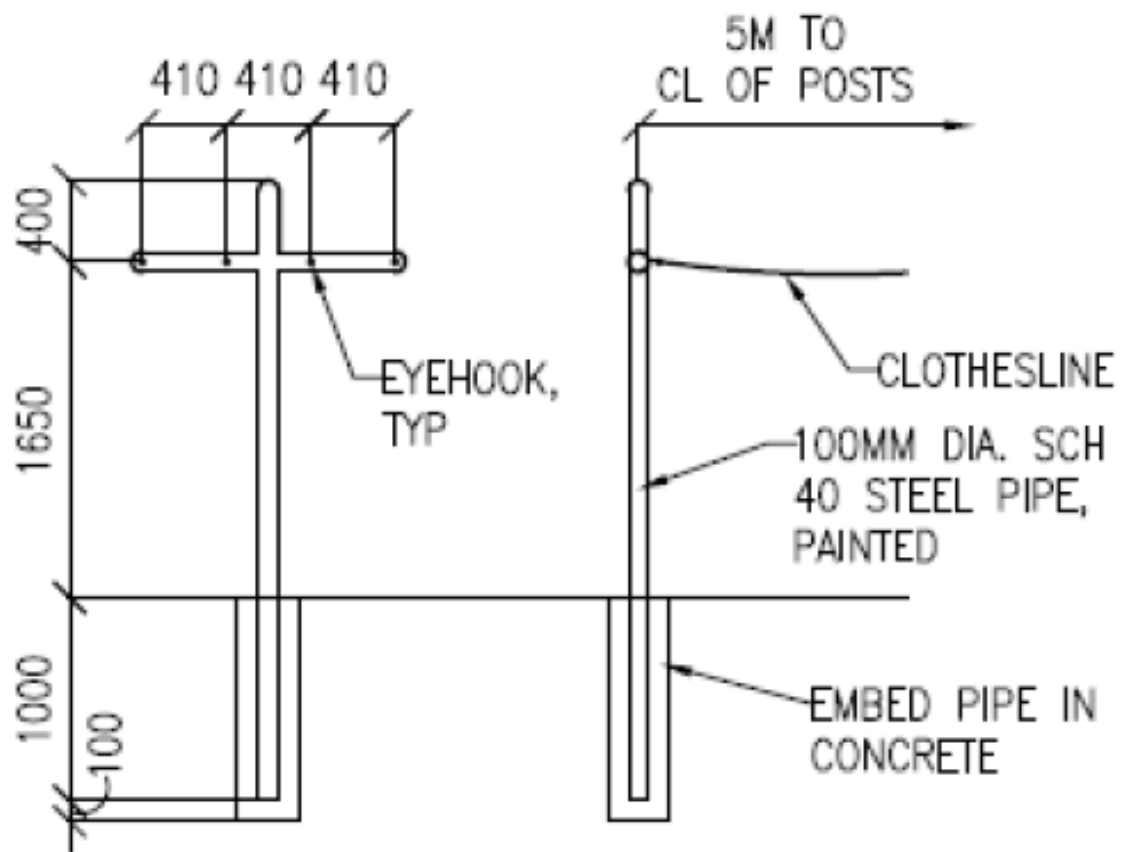
E3

100% SUBMISSION

\* MAIN BREAKER SHALL BE 3P EARTH GROUND TYPE

SHEET  
REFERENCE  
NUMBER:  
  
E4





CLOTHESLINE - NTS

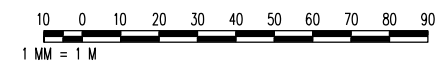


<u>VEHICLE TYPE(S):</u>	<u>SPACE SIZE (WIDTH x DEPTH)</u>
MOTORCYCLES	1.4M x 3.7m
ATV, POV	2.4M x 4.9M
LTV, VISITOR	4M x 5.5M
5 TON, C4, WRECKER	4M x 11M
TRAILERS	4M X 18M

THE TRAVEL LANE ADJACENT TO PARKING SPACES SHALL HAVE SUFFICIENT WIDTH TO ACCOMMODATE THE VEHICLE TURNING RADIUS.

4. SIDEWALKS SHALL HAVE A WIDTH OF 1.5M.  
ROADS SHALL HAVE A WIDTH OF 7.3M UNLESS OTHERWISE NOTED.

5. BUILDINGS TO BE MINIMUM OF 10 METERS APART.



SHEET  
REFERENCE  
NUMBER:  
  
C1

READY TO ADVERTISE SUBMISSION

December 20, 2007 1:24:03 p.m. LOAN NAME : B51evet1  
Drawing: [A:\USACE\AEC\W912ER-05-D-0002 AE & CM CONTRACT] TASK ORDER 0029 -- ANCOPI DRAWINGS\ANPA-07S-10008 BP ZONE B 101 DRAWINGS\01 DWG\10008\_C.DWG - (SHEET C1)



# AFGHAN NATIONAL ARMY

# STANDARD BUILDING DESIGN

# FUEL OPERATORS BUILDING

## 100% FINAL DESIGN SUBMITTAL

## SHEET INDEX

G-001 COVER SHEET

## STRUCTURAL

S-001	GENERAL NOTES & DESIGN CRITERIA
S-101	FOUNDATION/SLAB & ROOF FRAMING PLANS
S-401	BUILDING SECTIONS
S-501	SECTIONS
S-601	SCHEDULES
S-701	TYPICAL DETAILS
S-801	PLANS & DETAILS & SHEAR WALL ELEVATIONS

## ARCHITECTURAL

A-001 LIFE SAFETY PLAN  
A-101 FLOOR PLAN, ROOF PLAN &  
ELEVATIONS  
A-401 WALL SECTIONS  
A-501 EXTERIOR DETAILS  
A-502 HEAD, JAMB, & SILL DETAILS  
A-503 WINDOW DETAILS  
A-601 STOOD & DOOR SCHEDULES

MECHANICAL

M-101 FLOOR PLAN-HVAC SCHEDULES &amp; DETAILS

## ELECTRICAL

E-001	ELECTRICAL	SYMBOLS & ABBREVIATIONS
E-101	ELECTRICAL	LIGHTING, POWER & SYSTEMS PLAN
E-501	ELECTRICAL	DETAILS
E-502	ELECTRICAL	DETAILS
E-601	ELECTRICAL	LIGHT FIXTURE SCHEDULE
E-602	ELECTRICAL	PANEL SCHEDULES

AFGHAN NATIONAL ARMY  
REGIONAL MILITARY TRAINING CENTER  
STANDARD DESIGN

FUEL OPERATORS BUILDING

COVER SHEET

Sheet  
reference  
number:  
G-00

U.S. ARMY CORPS OF ENGINEERS AFGHANISTAN ENGINEER DISTRICT  APO AE 96338  <i>Michael Baker, Jr., Inc.</i> <i>Michael Baker Corporation</i> Attn: Business Park 14000 1st Avenue Moon Township, PA 15108	Designed by: KMP/MMY Dwn. by: RCG Cdd by: CWW Prepared by: LHM Submitted by:	Date: 3/07/2010 Design file no.  Drawing code:  File name: ANACRSG-001 Print date: 3/9/2010	Rev: 0
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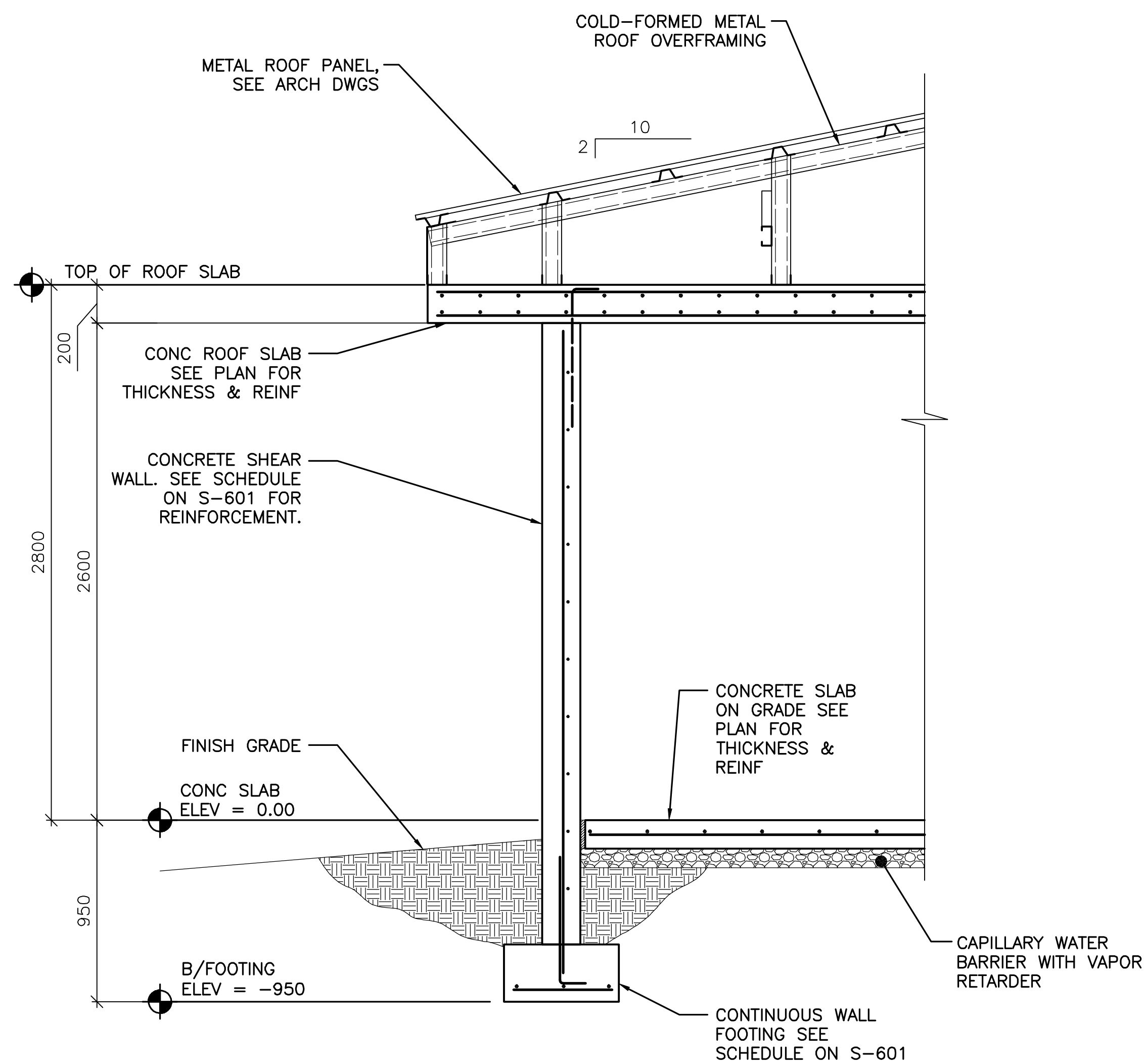


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<p>U.S. ARMY CORPS OF ENGINEERS AFGHANISTAN ENGINEER DISTRICT</p> <p>Michael Baker Corp. A unit of Michael Baker Corporation</p> <p>1000 Ardmore Drive Arlene, Business Park Moan Township PA 15108</p>	<p>Designed by: KMP/MMY</p> <p>Dwn by: RCG</p> <p>Reviewed by: LHM</p> <p>Submitted by: BAKER</p>	<p>Date: 2/23/10</p> <p>Design file no.</p> <p>Drawing code:</p> <p>File name: AMFPCS-401BS Plot date: 2/23/2010 Plot scale: x.x</p>
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AFGHAN NATIONAL ARMY REGIONAL MILITARY TRAINING CENTER STANDARD DESIGN	FUEL OPERATORS BUILDING	BUILDING SECTIONS
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Sheet  
reference  
number:  
S-401

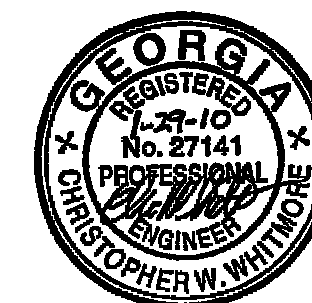


UNLESS OTHERWISE NOTED, LINEAR  
DIMENSIONS SHOWN ON DRAWINGS  
ARE IN MILLIMETERS (mm)

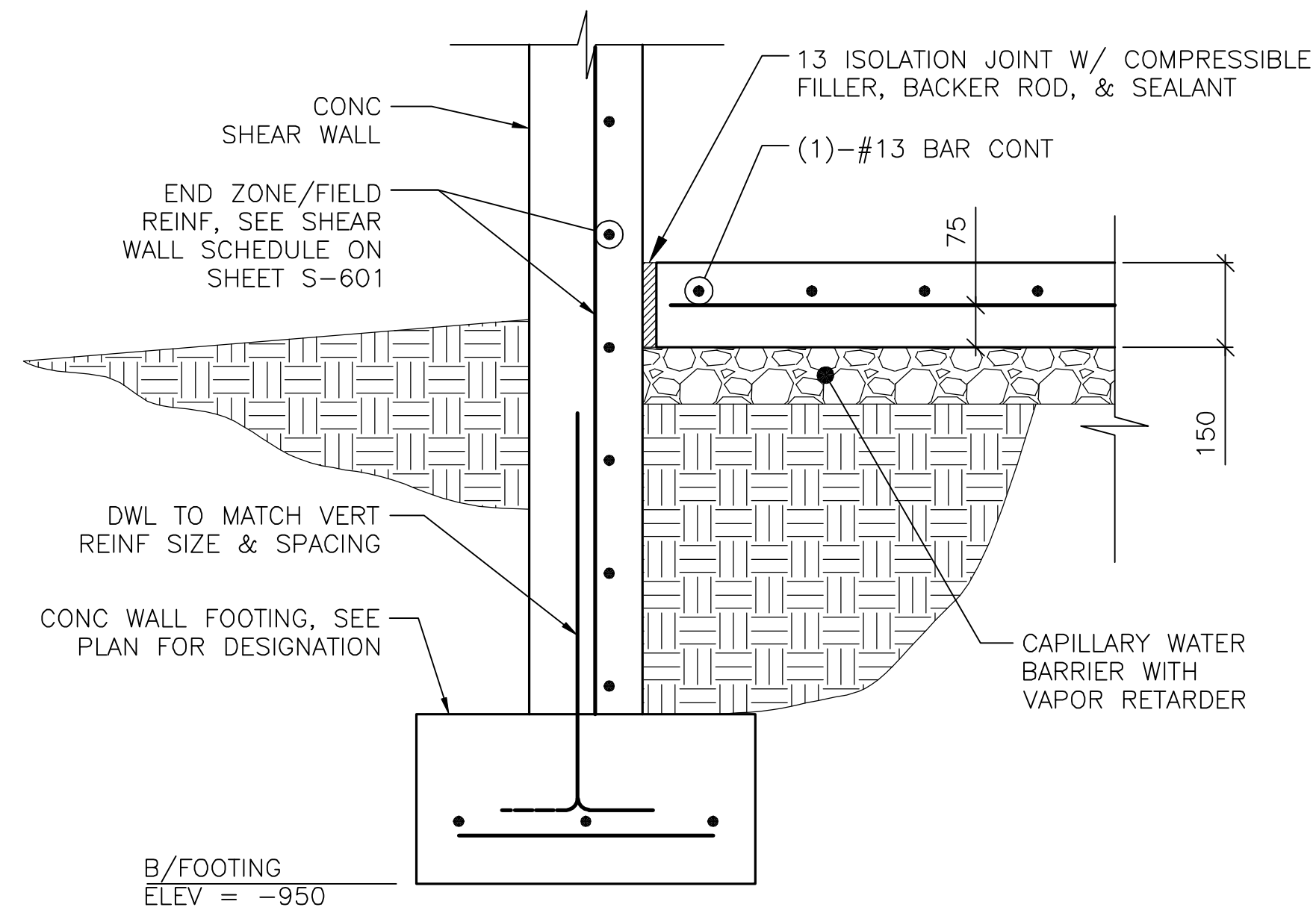
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*Chris M. White*  
A/E DESIGNER OF RECORD

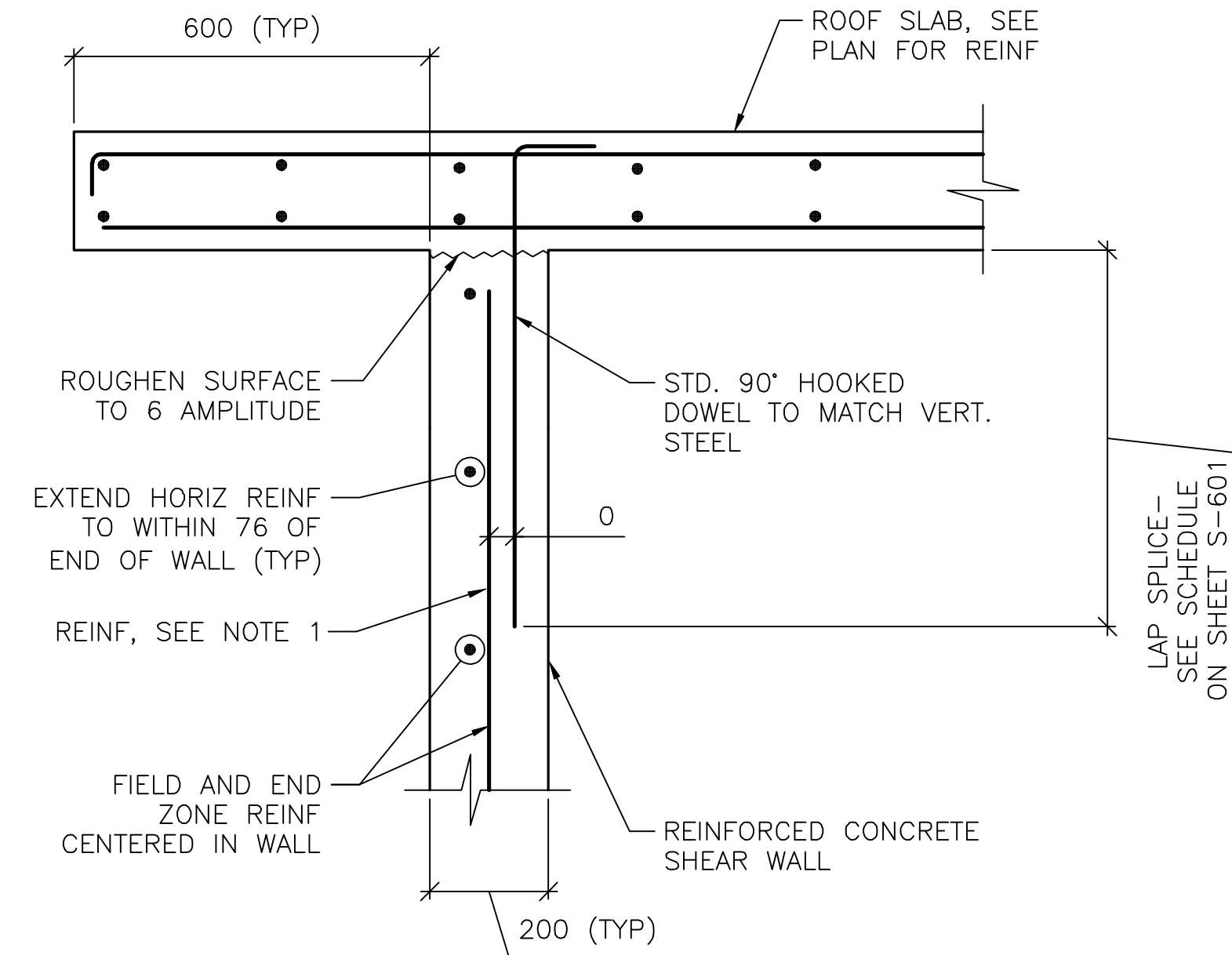
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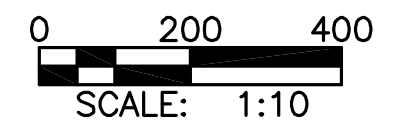
1  
S-101



NOTES:

1. TERMINATE "FIELD" VERT REINF & END ZONE REINF @ 50 CLEAR FROM TOP OF ROOF SLAB.
2. SEE SHEET S-601 FOR SCHEDULED FIELD AND END ZONE REINF.

2  
S-101



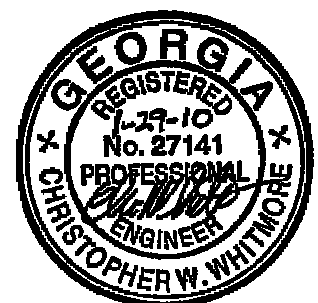
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APPROVED:

Chris White

A/E DESIGNER OF RECORD

SEAL:



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Reviewed by: LHM	Drawing code:	
Submitted by:	File name: ANAPCBS-301SC	
	Plot date: 2/23/2010	
BAKER	Plot scale: X:X	

REGIONAL MILITARY TRAINING CENTER  
STANDARD DESIGN

FUEL OPERATORS BUILDING

## CONCLUSIONS

Sheet  
reference  
number:  
S-501

## CONCRETE REINFORCEMENT TENSION DEVELOPMENT/LAP SPLICE SCHEDULE

f'c = 28 MPa	LAP CLASS	UNCOATED BARS			
		TOP BARS		OTHER BARS	
BAR SIZES		CASE 1	CASE 2	CASE 1	CASE 2
#10 TO #19	A	50 BAR DIA	74 BAR DIA	38 BAR DIA	57 BAR DIA
	B	64 BAR DIA	96 BAR DIA	50 BAR DIA	74 BAR DIA
#22 TO #57	A	62 BAR DIA	93 BAR DIA	48 BAR DIA	71 BAR DIA
	B	80 BAR DIA	121 BAR DIA	62 BAR DIA	93 BAR DIA

NOTES:

1. TABULATED TENSION DEVELOPMENT LENGTH VALUES ARE TAKEN FROM CRSI DESIGN HANDBOOK 2008 10TH ED.
2. TENSION DEVELOPMENT & TENSION LAP SPICE LENGTHS ARE EXPRESSED AS MULTIPLES OF BAR DIAMETERS.
3. TABULATED VALUES ARE BASED ON MINIMUM YIELD STRENGTH OF REINFORCEMENT,  $f_y$ , OF 420MPa.
4. CONCRETE IS NORMAL WEIGHT ( $2400\text{kg/m}^3$ ) AND 28 DAY COMPRESSIVE STRENGTH = 28MPa.
5. TABULATED VALUES FOR BEAMS & COLUMNS ARE BASED ON TRANSVERSE REINFORCEMENT AND CONCRETE COVER MEETING MINIMUM CODE REQUIREMENTS.
6. CASES 1 & 2, WHICH DEPEND ON THE TYPE OF STRUCTURAL MEMBER, CONCRETE COVER, AND CENTER-TO-CENTER SPACING OF THE BARS ARE DEFINED IN THE TABLE BELOW.
7. LAP SPICE LENGTHS (MINIMUM 300mm) ARE MULTIPLES OF TENSION DEVELOPMENT LENGTHS: CLASS A =  $1.0(\text{TENSION DEVELOPMENT LENGTH})$  & CLASS B =  $1.3(\text{TENSION DEVELOPMENT LENGTH})$
8. TOP BARS ARE HORIZONTAL REINFORCEMENT WITH MORE THAN 300mm OF CONCRETE CAST BELOW THE BARS.
9. IT SHALL BE PERMISSIBLE TO CALCULATE WALL AND SLAB REINFORCEMENT TENSION DEVELOPMENT/SPICE LENGTHS IN ACCORDANCE WITH ACI 12.2.3 OR TABLE 5.3(b) OF CRSI 2008 IN LIEU OF VALUES TABULATED ABOVE.

BEAMS, COLUMNS	CASE 1	CONCRETE COVER AT LEAST 1 BAR DIA AND CENTER-TO-CENTER SPACING AT LEAST 2 BAR DIA
	CASE 2	CONCRETE COVER LESS THAN 1 BAR DIA OR CENTER-TO-CENTER SPACING LESS THAN 2 BAR DIA
ALL OTHERS	CASE 1	CONCRETE COVER AT LEAST 1 BAR DIA AND CENTER-TO-CENTER SPACING AT LEAST 3 BAR DIA
	CASE 2	CONCRETE COVER LESS THAN 1 BAR DIA OR CENTER-TO-CENTER SPACING LESS THAN 3 BAR DIA

## CONCRETE COVER SCHEDULE

MINIMUM CONCRETE COVER PROTECTION FOR REINFORCEMENT BARS SHALL BE AS LISTED BELOW: (SEE ACI 318M-05, SECTION 7.7 FOR CONDITIONS NOT NOTED). DIMENSIONS FOR BAR PLACEMENT GIVEN IN SECTIONS AND DETAILS SHALL SUPERSEDE MINIMUM COVER REQUIREMENTS GIVEN HERE. DIMENSIONS ARE IN mm. PROVIDE STANDARD BAR CHAIRS AND SUPPORT BARS @1200mm MAXIMUM AS REQUIRED TO MAINTAIN CONCRETE PROTECTION SPECIFIED.

FOOTINGS (EARTH FORMED):	70
COLUMNS / PIERS (TO TIES)	40
GRADE BEAMS OR SLAB TURNED DOWN EDGES:	
TOP	40
BOTTOM (EARTH FORMED)	70
SIDES (EARTH FORMED)	70
SIDES (BOARD FORMED)	40
#16 BAR & SMALLER	
#19 THRU #36 BAR	50
ELEVATED BEAMS & SLABS:	
BEAM TIES & STIRRUPS (NOT EXPOSED TO WEATHER)	40
BEAM TIES & STIRRUPS (EXPOSED TO WEATHER)	50
FLOOR SLABS (NOT EXPOSED TO WEATHER)	20
FLOOR SLABS (EXPOSED TO WEATHER)	
#19 & LARGER	50
#13 & SMALLER	40
ROOF SLAB BARS	25
SLABS ON GRADE	
NOT EXPOSED TO WEATHER (FROM TOP)	20
EXPOSED TO WEATHER (FROM TOP)	40
UTILITY TUNNEL WALLS, RETAINING WALLS AND SHEAR WALLS.	
(NO SURFACES SHALL BE EARTH FORMED)	
EARTH SIDE AND FRONT SIDE (EXPOSED TO WEATHER)	
#16 BAR AND SMALLER	40
#19 THRU #36 BAR	50

## CONCRETE SHEAR WALL SCHEDULE

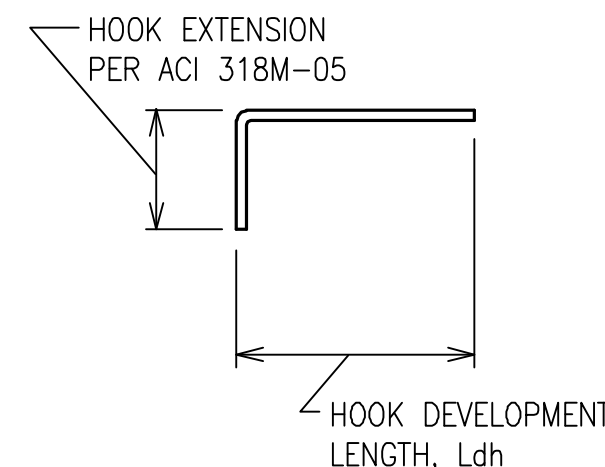
MARK	TYPE	WALL LENGTH (L) (mm)	WALL REINFORCEMENT		REMARKS
			END ZONE (EACH END)	FIELD	
SW1	E	1100	(2)-#13 @ 100mm OC	#13 @ 300mm OC	(2) SHEAR WALL SECTIONS OF 1100mm IN LENGTH PER (1) TYPE E SHEAR WALL DETAIL

NOTES:

1. WORK THIS SCHEDULE WITH SHEAR WALL DETAILS ON SHEETS S-701
2. SEE PLAN FOR LOCATION OF SHEAR WALL(S).
3. WALL "FIELD" REINFORCEMENT LISTED APPLIES TO VERTICAL & HORIZONTAL BARS.
4. WALL "FIELD" REINFORCEMENT SHOULD BE CENTERED IN WALL.
5. VERTICAL "FIELD" BARS MAY BE OMITTED IN LOCATION OF "END ZONE" REINFORCEMENT.

STANDARD  
HOOKS IN  
TENSION PER  
(ACI 318M-05)

HOOK DEVELOPMENT LENGTH (mm)	
BAR SIZE	$f'_c$ 28 MPa
#10	180
#13	250
#16	300
#19	380
#22	430
#25	480
#29	560
#32	610
#36	690



NOTES:

1. CONCRETE IS NORMAL WEIGHT CONCRETE.
2. BAR YIELD STRENGTH,  $f_y = 420$  MPa
3. SIDE COVER REQUIREMENTS OF ACI SECT. 12.5.3 ARE ASSUMED TO NOT BE MET.
4. TIE OR STIRRUP REQUIREMENTS OF ACI SECT. 12.5.3 ARE ASSUMED TO NOT BE MET.
5. REDUCTION FOR EXCESS REINFORCEMENT IS NOT TAKEN.
6. HOOK DEVELOPMENT LENGTH IS VALID FOR 180° HOOKS ALSO.

## WALL FOOTING SCHEDULE

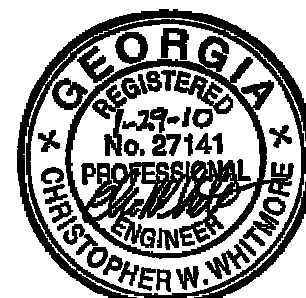
MARK	FOOTING SIZE (mm)			FOOTING REINFORCING		REMARKS
	LENGTH	WIDTH	THICKNESS	LONGITUDINAL	TRANSVERSE	
WF1	---	600	300	(4)-#19	#13 @ 450mm	-----

UNLESS OTHERWISE NOTED,  
LINEAR DIMENSIONS SHOWN ARE  
IN MILLIMETERS (mm)

APPROVED:

A/E DESIGNER OF RECORD

SEAL: .

[illegible]

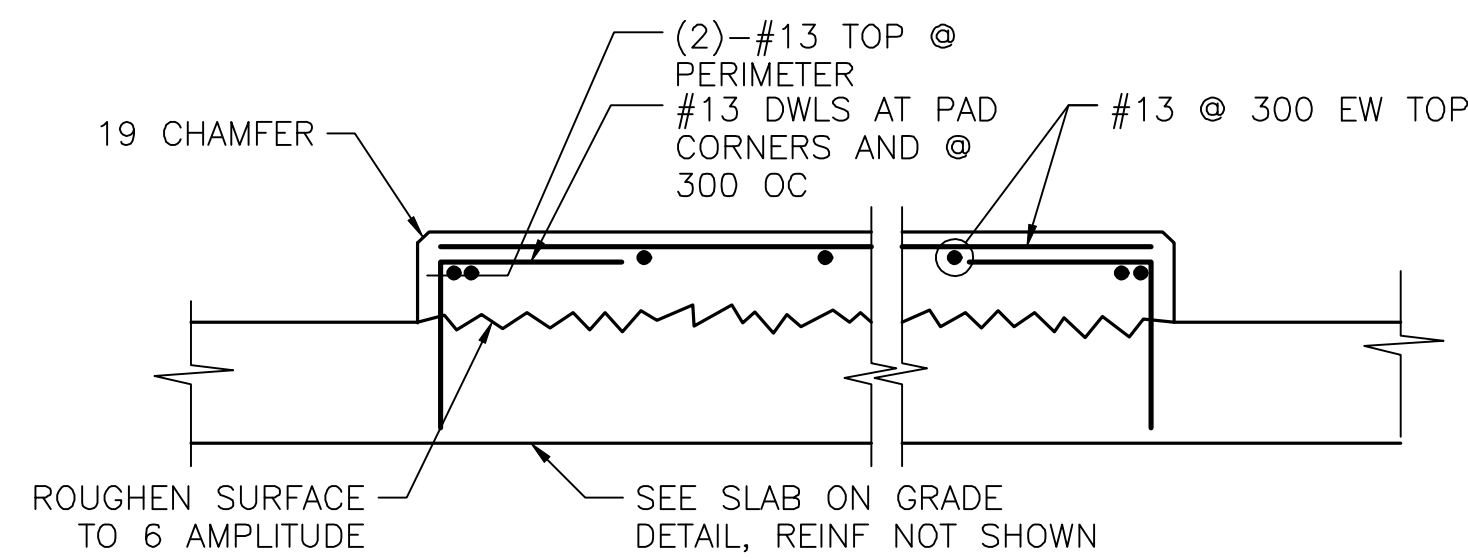
Designed by: <b>KMP/MMY</b>	Date:	Rev:
	2/23/10	0
Dwn by: <b>RCG</b>	Design file no.	
Ckd by: <b>CWW</b>		
Reviewed by: <b>LHM</b>	Drawing code:	
Submitted by: <b>BAKER</b>	File name: ANWP05S01SCH	
	Plot date: 2/22/2010	
	Plot scale: x.x	

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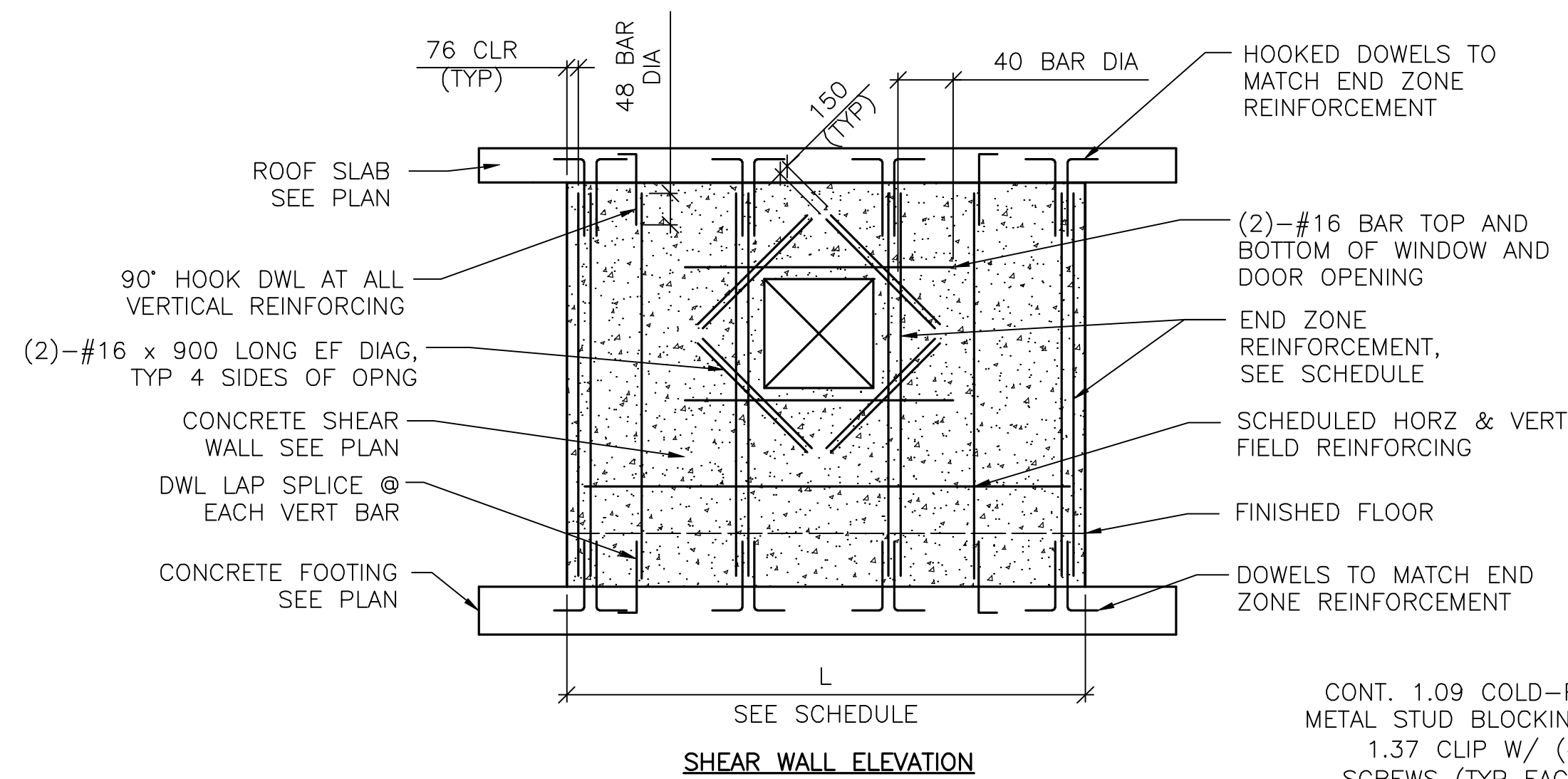
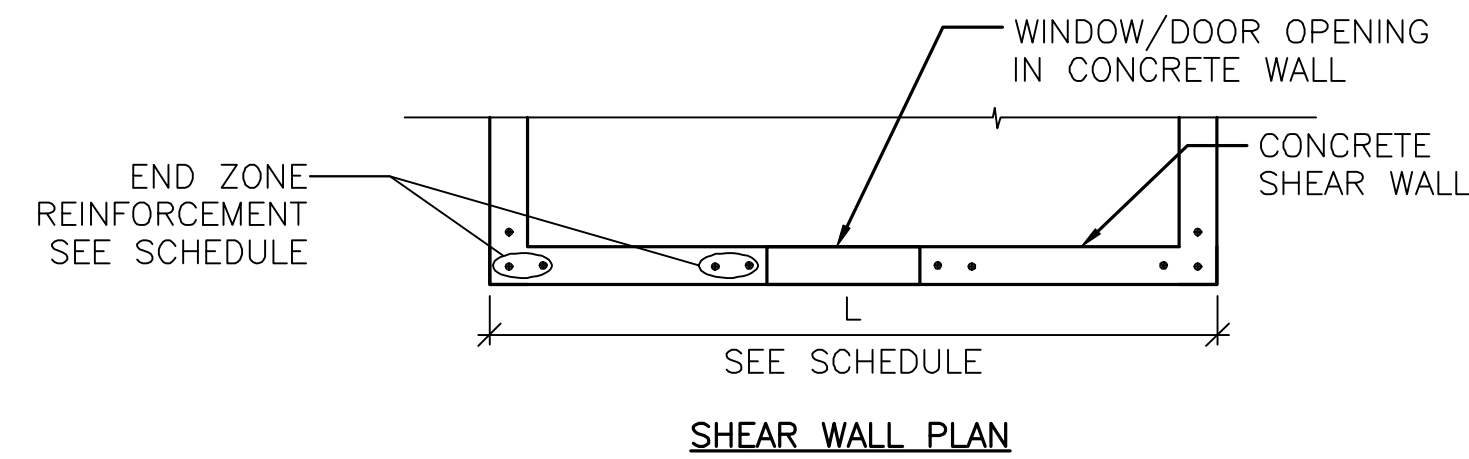
*Michael Baker Jr., Inc*  
*A unit of Michael Baker Corporation*  
Airsides Business Park  
100 Airside Drive  
Moon Township PA 15108  
[www.mbakercorp.com](http://www.mbakercorp.com)

AFGHAN NATIONAL ARMY REGIONAL MILITARY TRAINING CENTER STANDARD DESIGN	FUEL OPERATORS BUILDING	SCHEDULES
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Sheet  
reference  
number:  
S-601

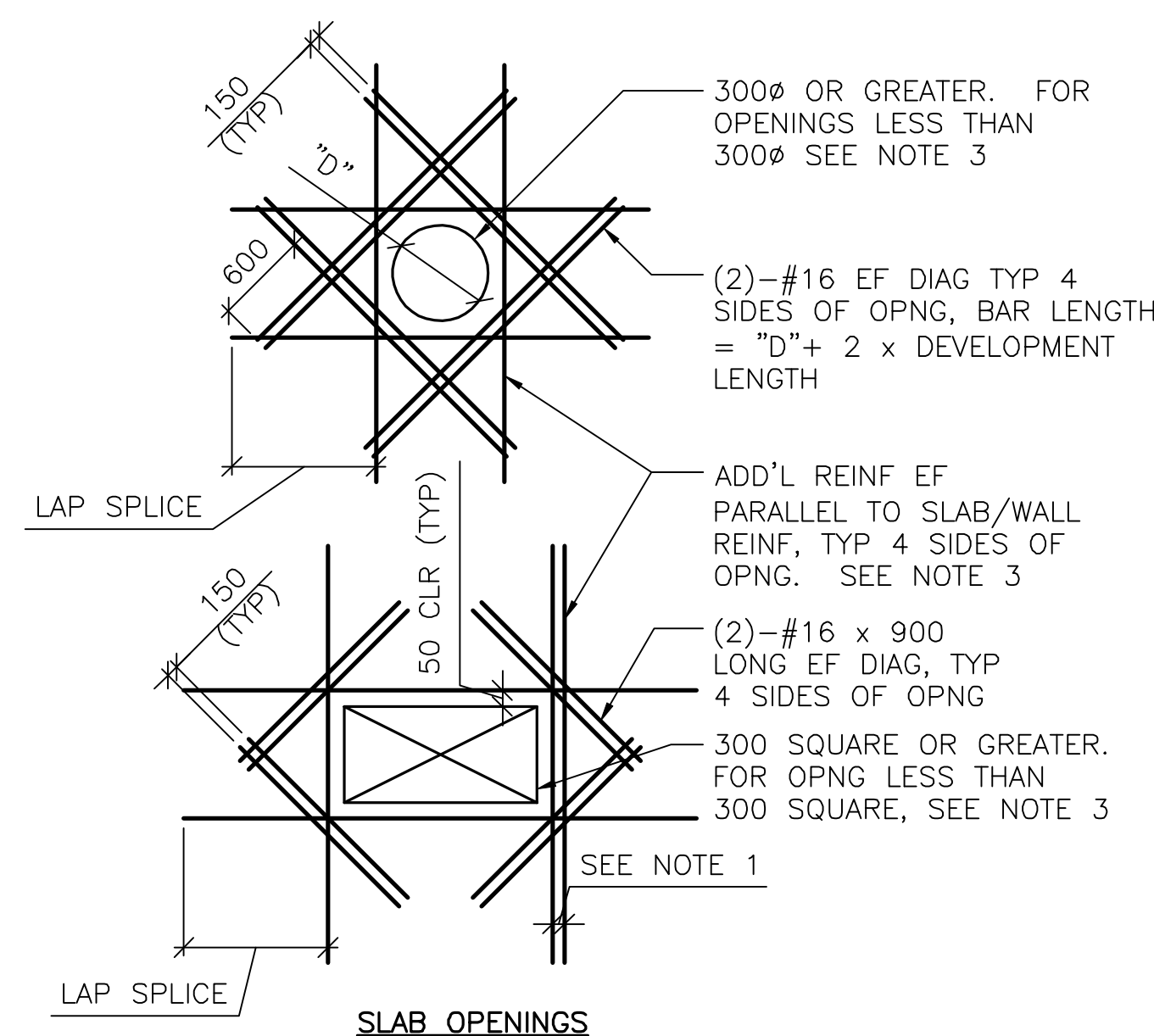


**1**  
**INTERIOR EQUIPMENT PAD DETAIL**  
SCALE: NTS



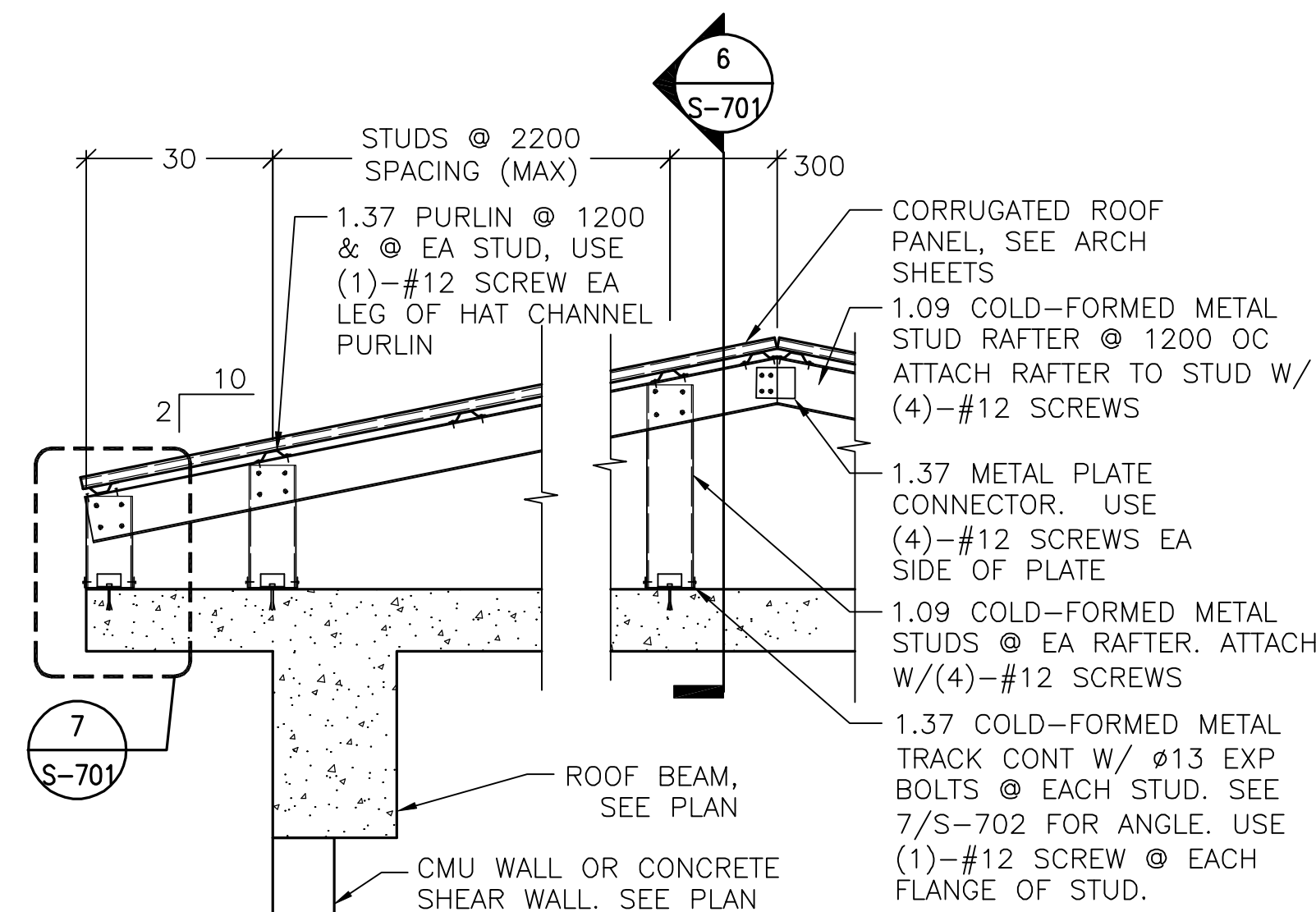
**2**  
**TYPE "E" SHEAR WALL DETAIL**  
SCALE: NTS

- DETAIL NOTES:
1. FIELD REINFORCEMENT IN SHEAR WALL NOT COMPLETELY SHOWN FOR CLARITY.
  2. MINIMUM CONC CLEAR DISTANCE FOR END ZONE REINF = 76
  3. SEE CONC SHEAR WALL SCHEDULE ON SHEET S-601
  4. CENTER FIELD REINF IN WALL
  5. WINDOW OPENING SHOWN. DOOR OPENING REINFORCEMENT SIMILAR



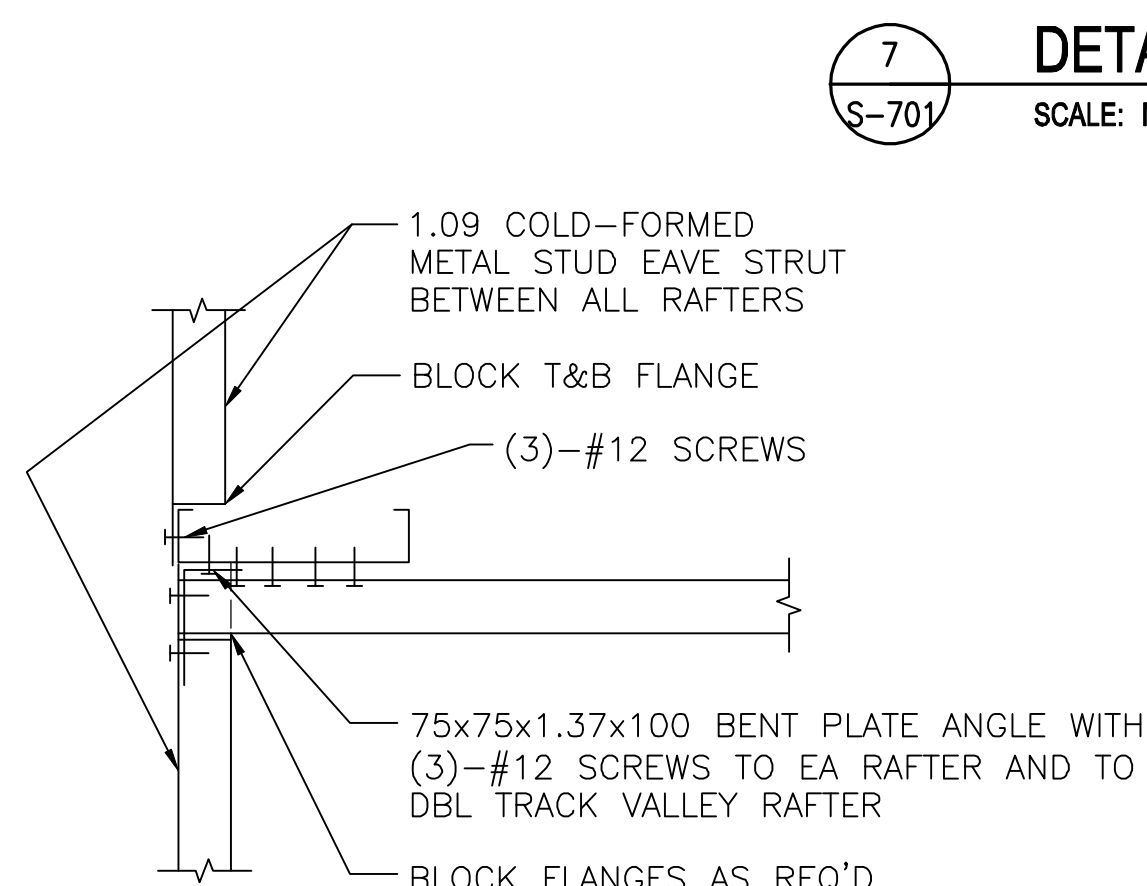
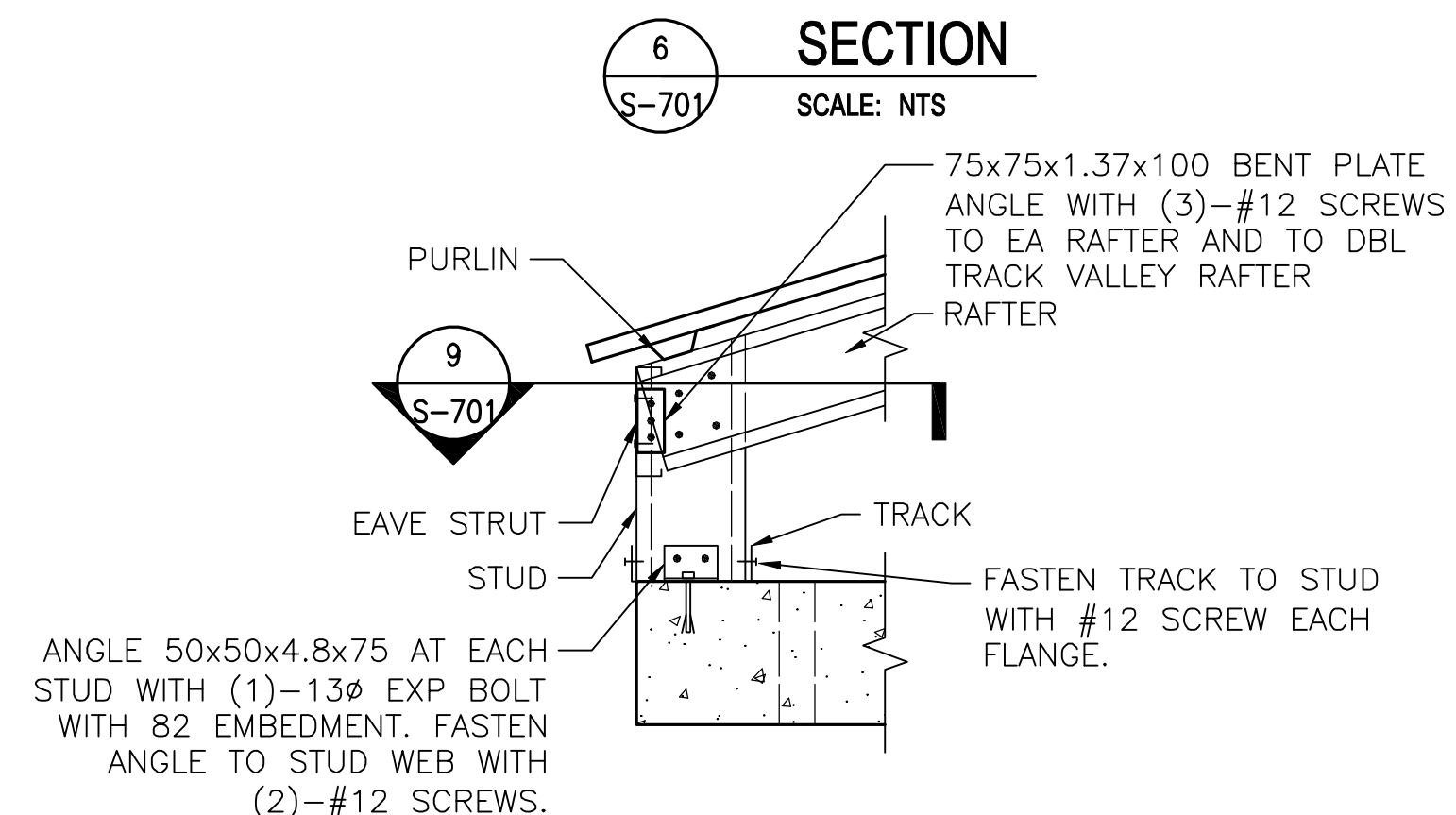
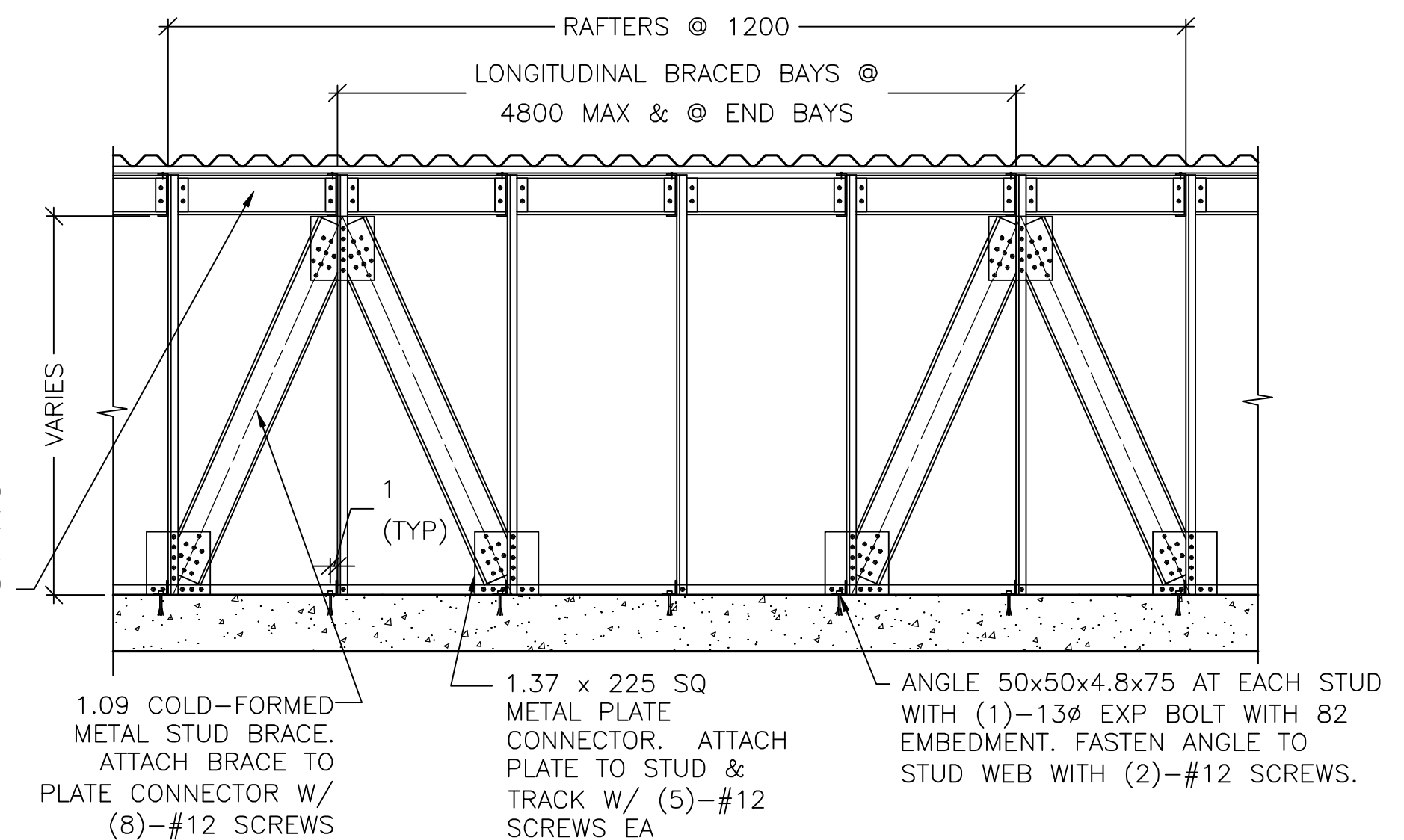
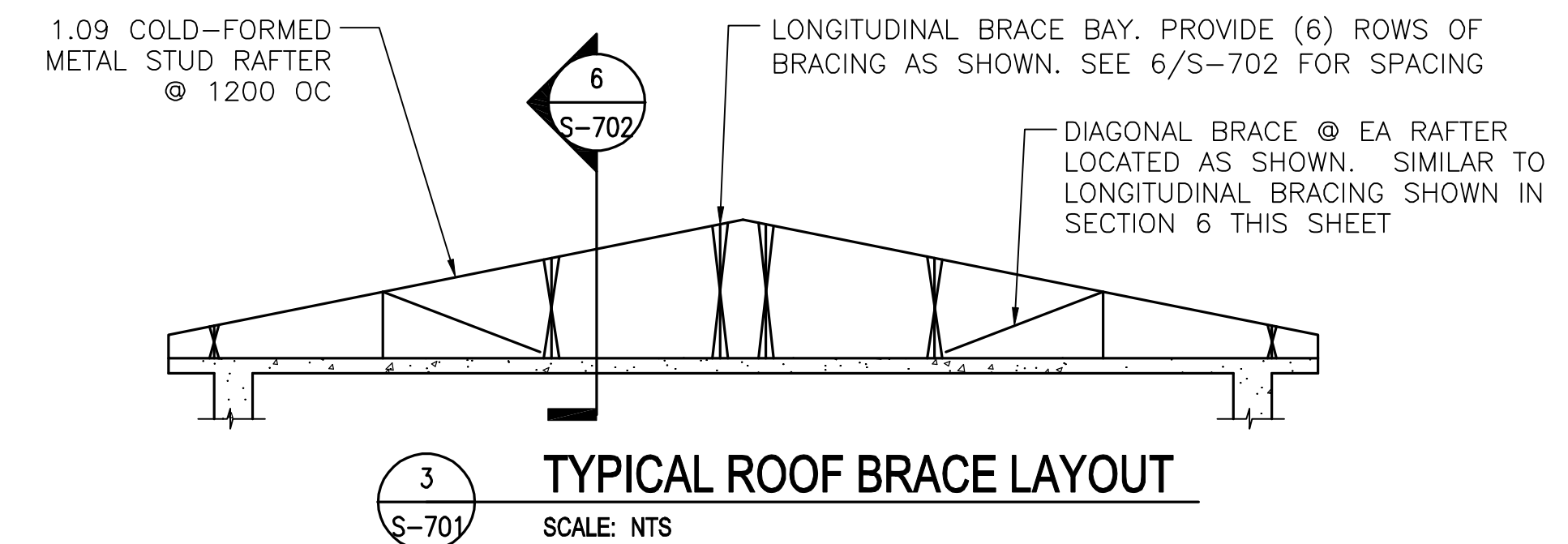
- DETAIL NOTES:
1. WHERE MORE THAN ONE ADDITIONAL BAR IS REQUIRED PARALLEL TO THE EXISTING SLAB/WALL REINFORCING THE ADDITIONAL REINFORCING BARS SHALL BE SPACED AT 100 ON CENTER.
  2. ADDITIONAL REINFORCING PARALLEL TO THE SLAB/WALL REINFORCING SHALL BE #16 BARS THAT PROVIDE A STEEL AREA ON EACH SIDE OF THE OPENING EQUAL TO 1/2 THE AREA OF THE REINFORCING CUT BY THE OPENING.
  3. FOR OPENINGS WITH SIDES OR DIAMETERS LESS THAN 300 SPREAD THE SLAB/WALL REINFORCING TO CLEAR THE OPENING.

**4**  
**ADD'L CONCRETE REINFORCEMENT DETAILS**  
SCALE: NTS



- DETAIL NOTES:
1. ALL GABLE END VERTICAL STUDS SHALL BE ORIENTED 90° TO INTERIOR STUDS & SPACED @ 600 OC. GABLE END RAFTER SHALL BE 1.37 METAL TRACK SPANNING CONTINUOUSLY OVER GABLE END STUDS. INSET GIRTS AT GABLE END SHALL BE 1.09 COLD-FORMED METAL STUDS @ 1200 OC ATTACHED VIA 1.37 THICKNESS CLIP ANGLE W/ (2) #12 SCREWS EA LEG.
  2. ALL INTERIOR, NON-GABLE END VERTICAL STUDS GREATER THAN 2400 IN LENGTH SHALL BE BACK-TO-BACK W/ #12 SCREWS @ 200 OC STAGGERED.

**5**  
**TYPICAL OVERBUILT ROOF FRAMING DETAIL**  
SCALE: NTS



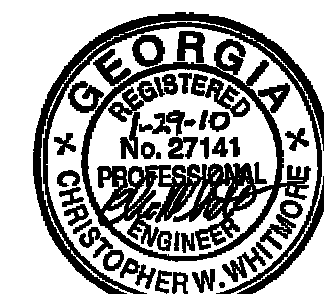
**8**  
**SECTION**  
SCALE: NTS

UNLESS OTHERWISE NOTED, LINEAR DIMENSIONS SHOWN ON DRAWINGS ARE IN MILLIMETERS (mm)

APPROVED:

*Chin W. White*  
A/E DESIGNER OF RECORD

SEAL:



U.S. ARMY CORPS OF ENGINEERS  
AFGHANISTAN  
ENGINEER DISTRICT

Rev.	Date	Appr.	Mark	Description
1	2/23/10			Design file no.
2	2/23/10			Design file no.
3	2/23/10			Design file no.
4	2/23/10			Design file no.
5	2/23/10			Design file no.
6	2/23/10			Design file no.
7	2/23/10			Design file no.
8	2/23/10			Design file no.
9	2/23/10			Design file no.
10	2/23/10			Design file no.

Designed by: KMP/MMY	Drawn by: RCG	Reviewed by: LHM	Submitted by: BAKER
Date: 2/23/10	Design file no. CWV	Drawing code: LHM	File name: ANAF08-701TOT Plot date: 2/23/2010 Plot scale: 1:XX

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AFGHAN NATIONAL ARMY REGIONAL MILITARY TRAINING CENTER STANDARD DESIGN	FUEL OPERATORS BUILDING

Sheet reference number:  
**S-701**

TYPICAL DETAILS

1

2

3

4

5



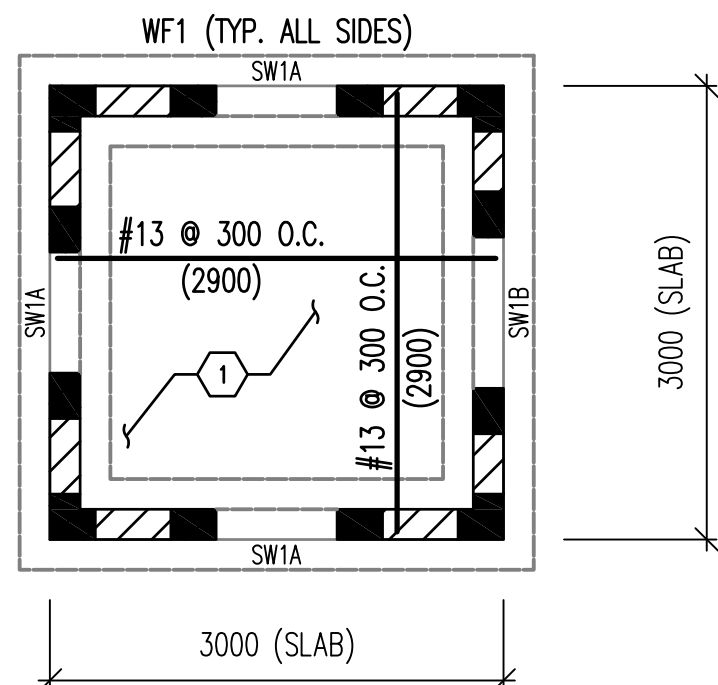
US ARMY CORPS  
OF ENGINEERS  
AFGHANISTAN  
ENGINEER DISTRICT

Rev	Date	Design	File no.	Drawn by	Checked by	Reviewed by	Submitted by	File name	Plot date	Plot scale
0	30/7/2010	KMP/MMY		JLM	SCL	RTD	BAKER	ANAFOS-801	9/5/2010	1:50

U.S. ARMY CORPS OF ENGINEERS AFGHANISTAN ENGINEER DISTRICT	Michael Baker Jr., Inc A unit of Michael Baker Corporation Arside Business Park 10000 Ardmore Blvd Norfolk, VA 23503 www.mbakercorp.com
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AFGHAN NATIONAL ARMY REGIONAL MILITARY TRAINING CENTER STANDARD DESIGN	FUEL OPERATORS BUILDING REBAR PLACEMENT DRAWINGS PLANS & DETAILS & SHEAR WALL REBAR ELEVATIONS
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Sheet  
reference  
number:  
S-801



1  
S-801  
FOUNDATION/SLAB PLAN  
SCALE: 1:50

#### FOUNDATION/SLAB PLAN NOTES:

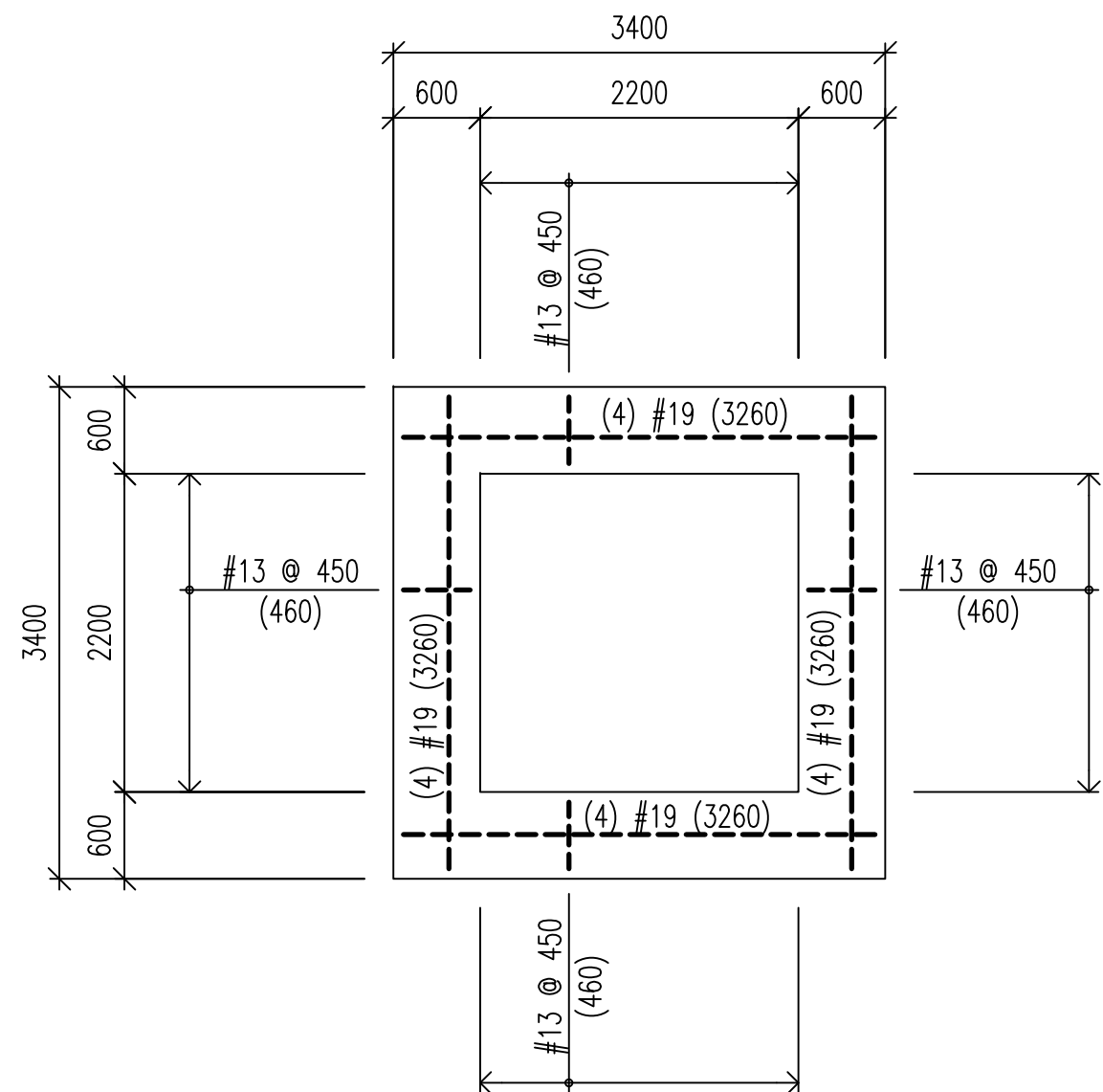
- SLAB-ON-GRADE REINFORCING ARE LOCATED 40mm FROM T/SLAB & B/SLAB, 50mm FROM EDGES & AND CONTROL JOINT. LENGTH NOTED AS THUS (6600). REFER TO DETAIL 4/S-801.
- WALL FOOTINGS INDICATED BY WF1 ON PLAN, REFER TO DETAIL 2/S-801.

#### FOUNDATION/SLAB PLAN KEY NOTES: (X)

- REINF. CONC. SLAB-ON-GRADE.

#### FOUNDATION/SLAB PLAN LEGEND:

- REINF CONC SHEAR WALL REFER TO DETAIL 1/S-801 & 2/S-801
- SLAB REINFORCING TOP BARS



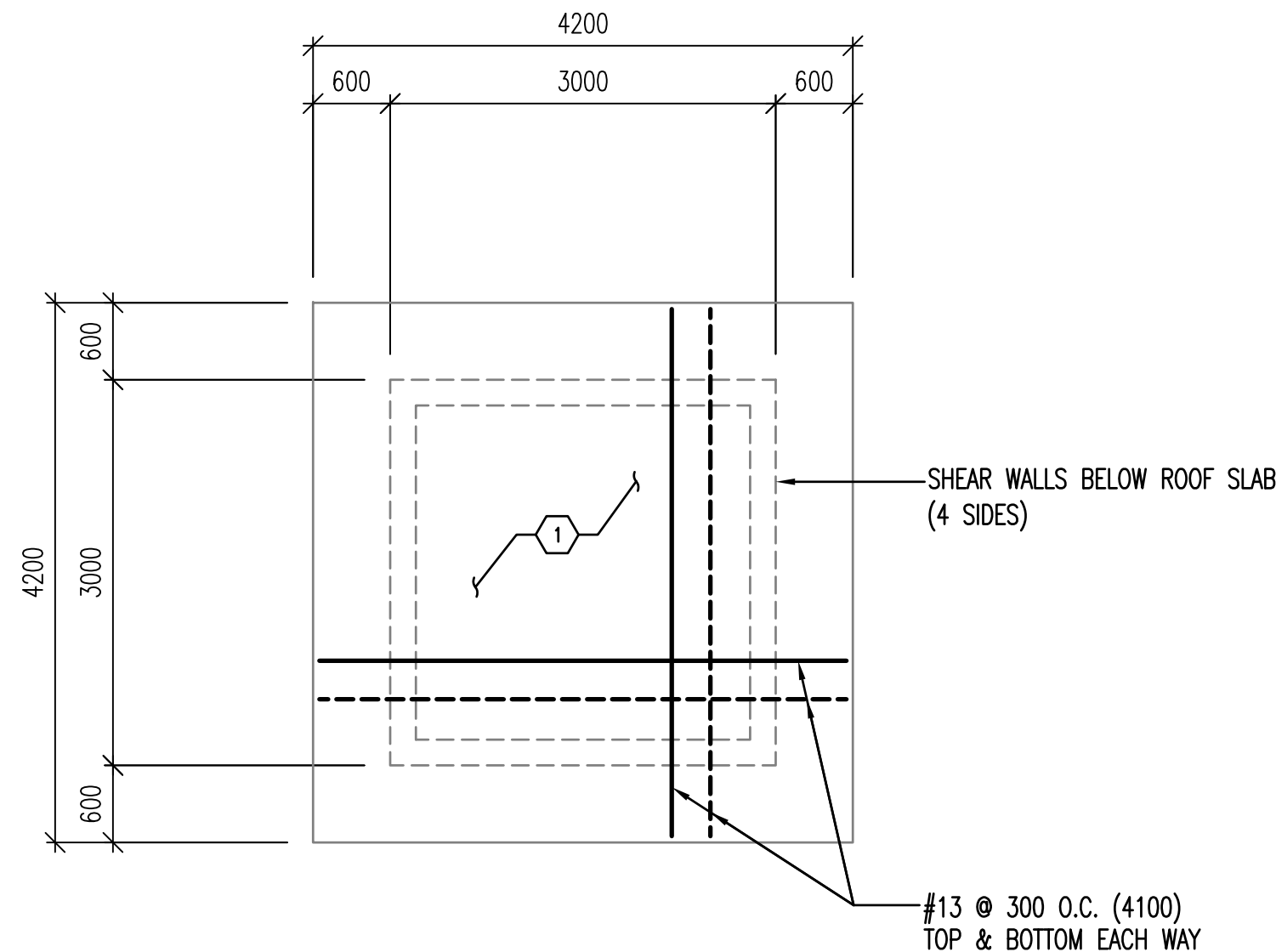
2  
S-801  
WALL FOOTING "WF1"  
SCALE: 1:50

#### WALL FOOTING PLAN NOTES:

- FOOTING REINFORCING ARE LOCATED 70mm FROM BOTTOM OF FOOTING & 70mm FROM ALL EDGES

#### WALL FOOTING PLAN LEGEND:

- SLAB REINFORCING BOTTOM BARS



3  
S-801  
ROOF FRAMING PLAN  
SCALE: 1:50

#### ROOF FRAMING PLAN NOTES:

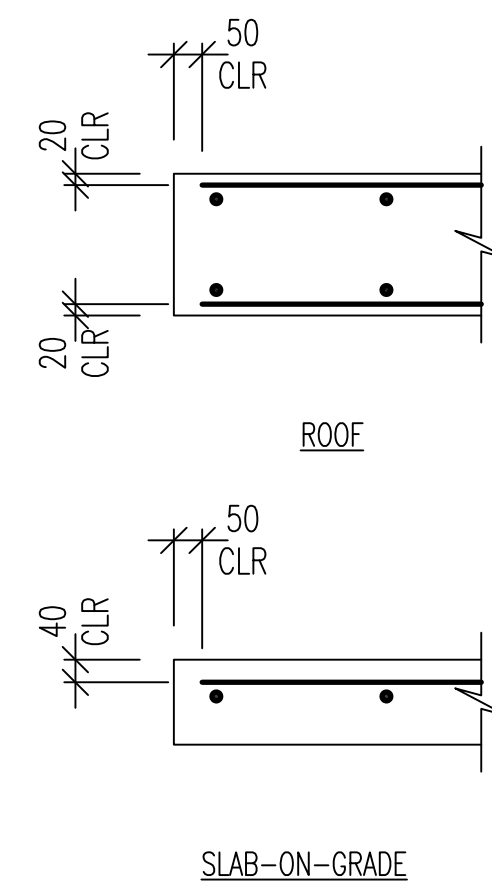
- ROOF SLAB REINFORCING BAR LENGTH IS NOTED THUS (6600).
- SLAB REBAR COVER AT T&B IS 20mm, 50mm AT EDGES. REFER TO DETAIL 4/S-801.

#### ROOF FRAMING PLAN KEY NOTES: (X)

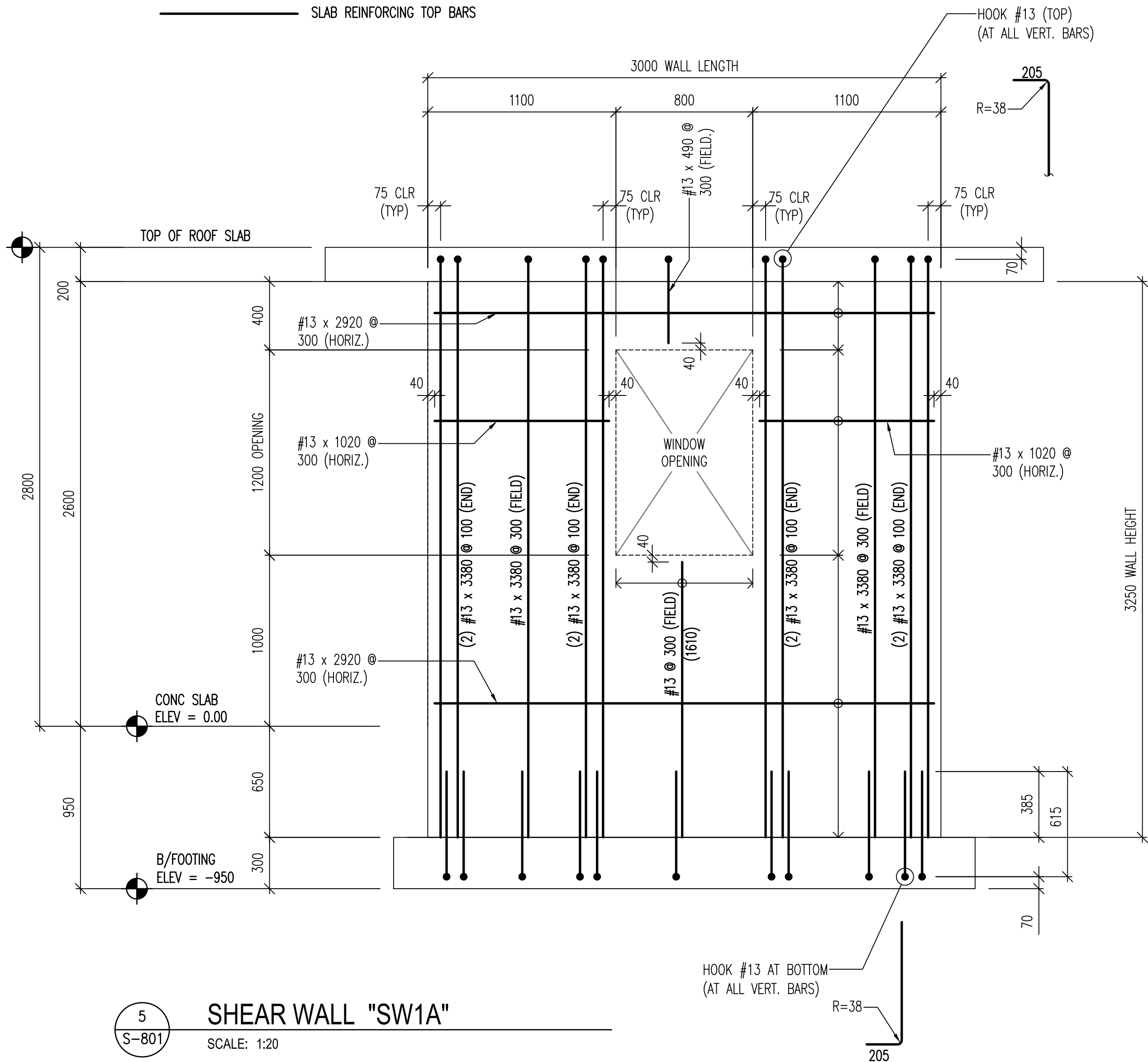
- CONC ROOF SLAB.

#### ROOF FRAMING PLAN LEGEND:

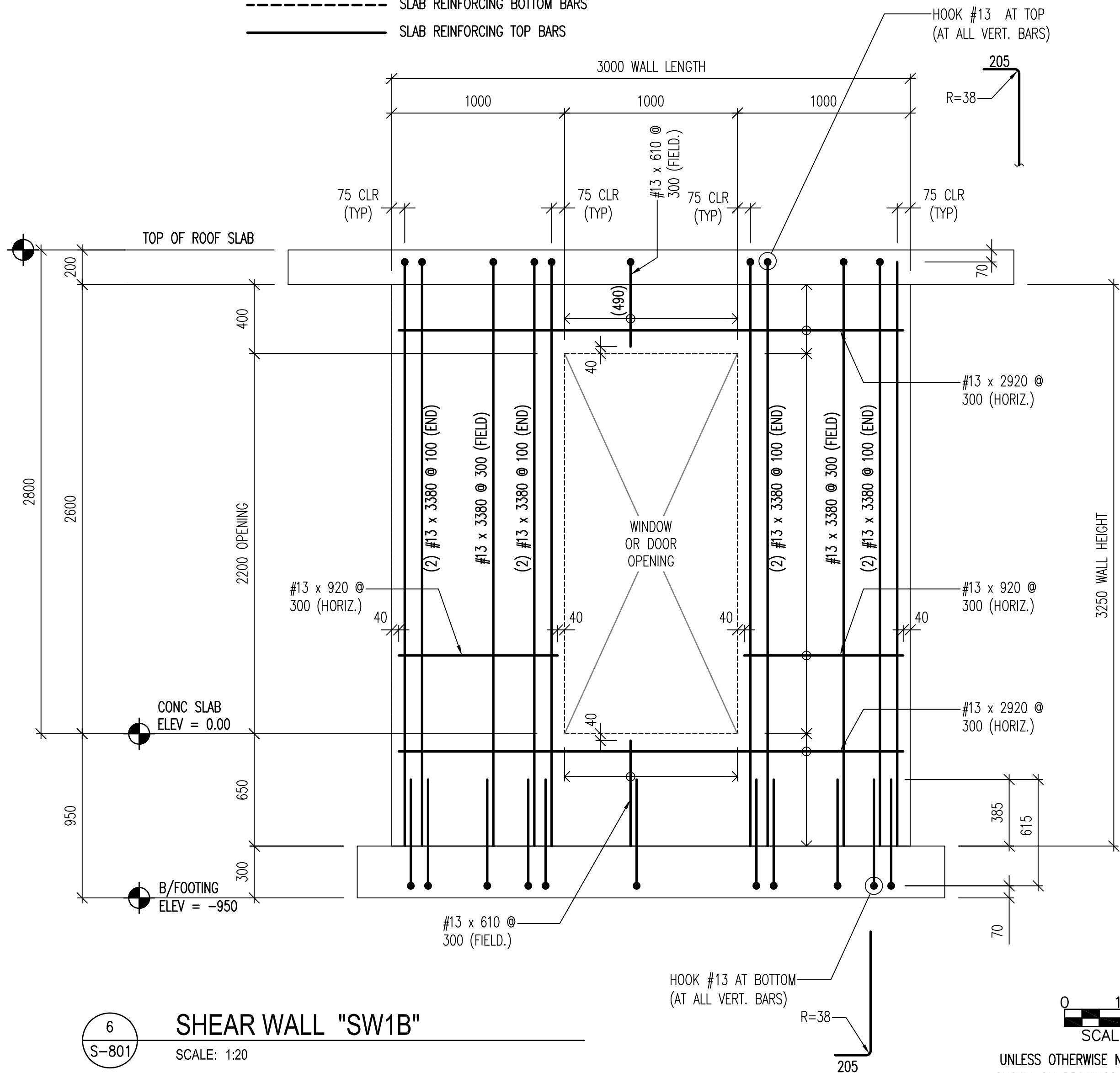
- SLAB REINFORCING BOTTOM BARS
- SLAB REINFORCING TOP BARS



4  
S-801  
TYPICAL SLAB REBAR CLEARANCES  
SCALE: 1:20



5  
S-801  
SHEAR WALL "SW1A"  
SCALE: 1:20

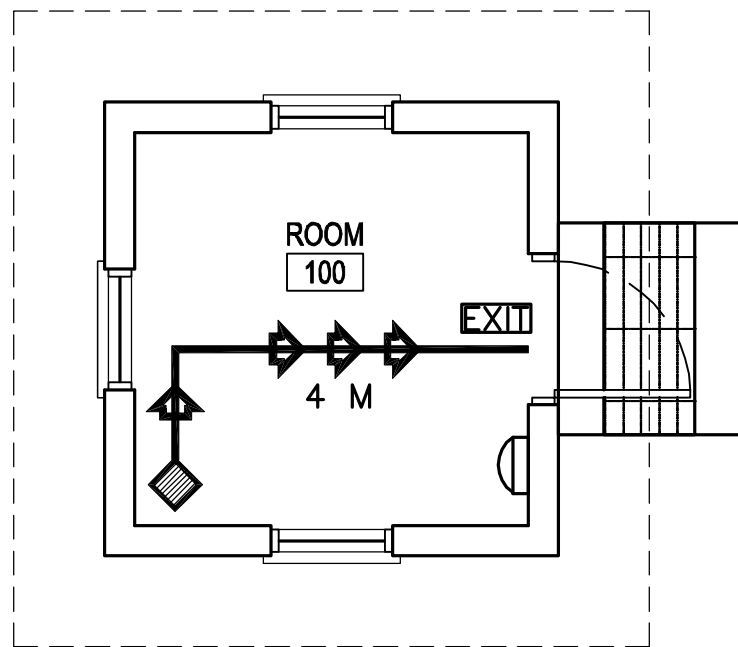


6  
S-801  
SHEAR WALL "SW1B"  
SCALE: 1:20

0 1000 2000  
SCALE: 1:50

UNLESS OTHERWISE NOTED, LINEAR DIMENSIONS  
SHOWN ON DRAWINGS ARE IN MILLIMETERS (mm)





1  
A-001

**FLOOR PLAN**  
SCALE: 1:50

## CODE ANALYSIS:

- REFERENCES:  
2006 INTERNATIONAL BUILDING CODE (2006 IBC)  
2006 LIFE SAFETY CODE (2006 NFPA 101)
- IBC OCCUPANCY CLASSIFICATION:  
GROUP B (BUSINESS NFPA 101 6.1.11 AND CHAPTER 38)
- TYPE OF CONSTRUCTION (IBC): TYPE II-B (UNPROTECTED/NONSPRINKLERED)
- IBC TABLE 503: ALLOWABLE HEIGHT AND BUILDING AREAS:  
GROUP B  
ALLOWABLE AREA: 2,137 SM  
ALLOWABLE HEIGHT: 3 STORIES (16 M)  
  
GROUP B  
PROPOSED AREA: 12 SM  
PROPOSED HEIGHT: 1 STORY (<16 M)

- IBC TABLE 601 & 602: FIRE RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS FOR TYPE II-B

BUILDING ELEMENT	RATING (HOUR)	REFERENCE
STRUCTURAL FRAME (COLUMNS, GIRDERS & TRUSSES)	0	TABLE 601
BEARING WALLS EXTERIOR	0	TABLE 601
INTERIOR	0	TABLE 601
NONBEARING WALLS & PARTITIONS INTERIOR	0	TABLE 601
FLOOR CONSTRUCTION	0	TABLE 601
ROOF CONSTRUCTION	0	TABLE 601
EXTERIOR WALL	0	TABLE 602

- IBC TABLE 803.5 – INTERIOR WALL AND CEILING FINISH REQUIREMENTS FOR B OCCUPANCY/NONSPRINKLERED

GROUP	EXIT ENCLOSURES AND EXIT PASSAGEWAY	CORRIDORS	ROOMS AND ENCLOSED SPACES
B	A	B	C

- NFPA 101 TABLE 7.3.1.2 – OCCUPANT LOAD  
BUSINESS = 9.3 SM/PERSON BUSINESS PROPOSED = 2 OCCUPANTS

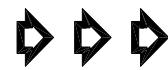
- NFPA 101 TABLE 7.3.3.1 – EGRESS CAPACITY  
BUSINESS = 5 MM PER OCCUPANT  
  
REQUIRED: 10 MM (2 OCCUPANTS x 5 MM PER OCCUPANT)  
PROPOSED EGRESS CAPACITY: (1) 900 MM DOORS

- NFPA 101 PARAGRAPH 38.2.6.2 – EXIT ACCESS TRAVEL DISTANCE (NONSPRINKLERED)  
REQUIRED: 60 METERS  
PROPOSED: 4 METERS

- NFPA 101 PARAGRAPH 38.3.6.1(1) & (2) – CORRIDORS  
NO RATED CORRIDOR REQUIRED (NONSPRINKLERED):  
(1) ALL EXITS ARE AVAILABLE FROM AN OPEN FLOOR AREA  
(2) SPACE IS OCCUPIED BY A SINGLE TENANT

- NFPA 101 PARAGRAPH 38.2.4.1 – NUMBER OF EXITS  
BUSINESS REQUIRED: 1 MINIMUM  
BUSINESS PROPOSED: 1 EXIT

## LEGEND:



DENOTES PATHS OF EXIT TRAVEL



DENOTES DOOR AS AN EMERGENCY EXIT



DENOTES STARTING POINT FOR TRAVEL DISTANCE



DENOTES FIRE EXTINGUISHER LOCATIONS

LINEAR DIMENSIONS SHOWN  
ARE IN MILLIMETERS (MM),  
UNLESS OTHERWISE NOTED

0 1000 2000  
SCALE: 1:50



US ARMY CORPS  
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Rev.	Date	Appr.	Mark	Description
0	2/23/10			

U.S. ARMY CORPS OF ENGINEERS AFGHANISTAN ENGINEER DISTRICT APO AE 96338	Designed by: KRC	Dwn by: AAR	Cdd by: NLJ	Rev. 0	Date: 2/23/10	Design file no.
Michael Baker Jr., Inc A unit of Michael Baker Corporation 100 Arside Drive Plymouth, PA 15108 www.mbakercorp.com	Reviewed by: LHM	Submitted by: BAKER	Drawing code: ANAF04-001LSP	File name: ANAF04-001LSP	Plot date: 2/23/2010	Plot scale: 1:50

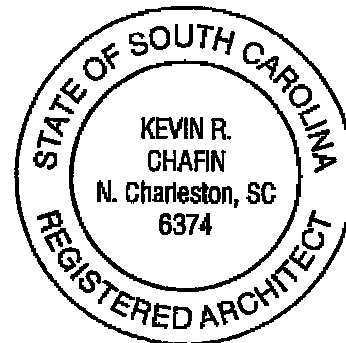
AFGHAN NATIONAL ARMY REGIONAL MILITARY TRAINING CENTER STANDARD DESIGN	FUEL OPERATORS BUILDING LIFE SAFETY PLAN
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Sheet  
reference  
number:  
A-001

APPROVED:

A/E DESIGNER OF RECORD

SEAL:

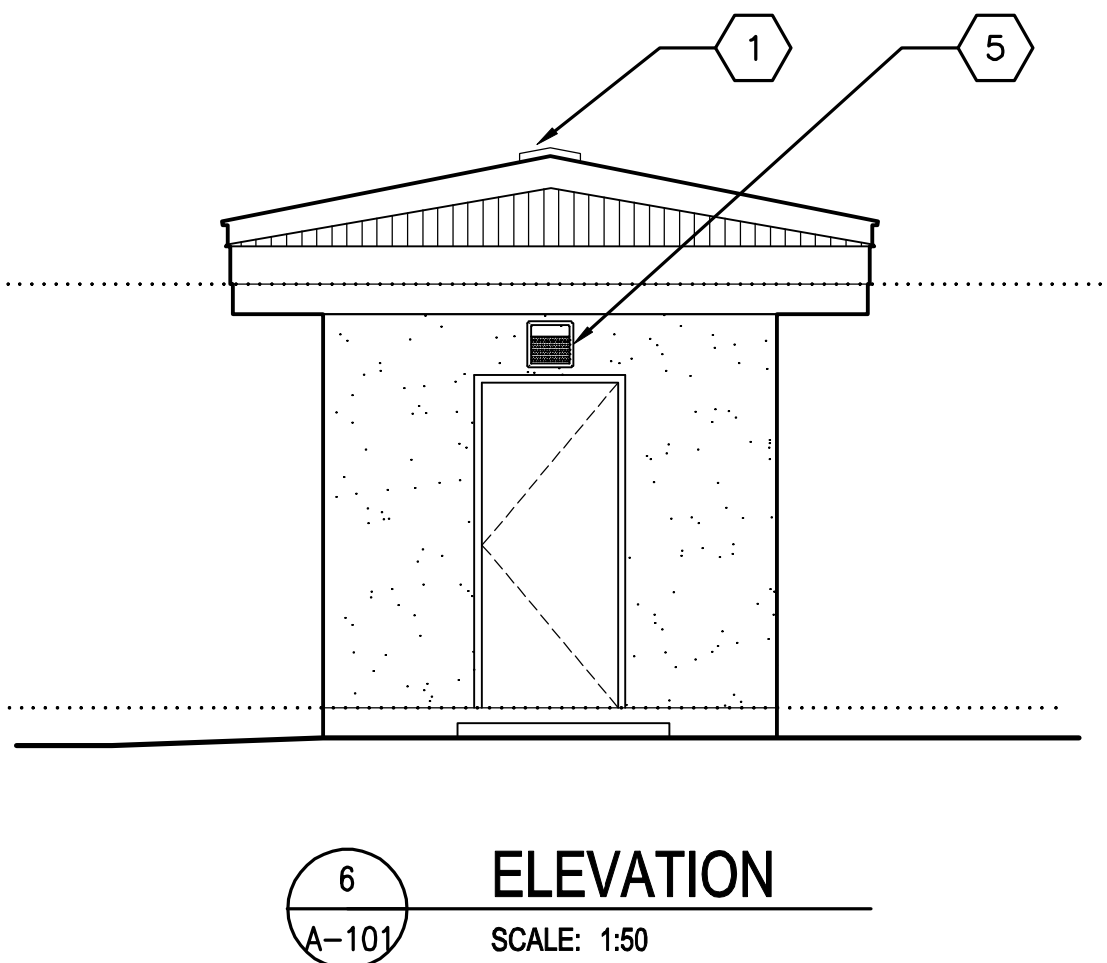
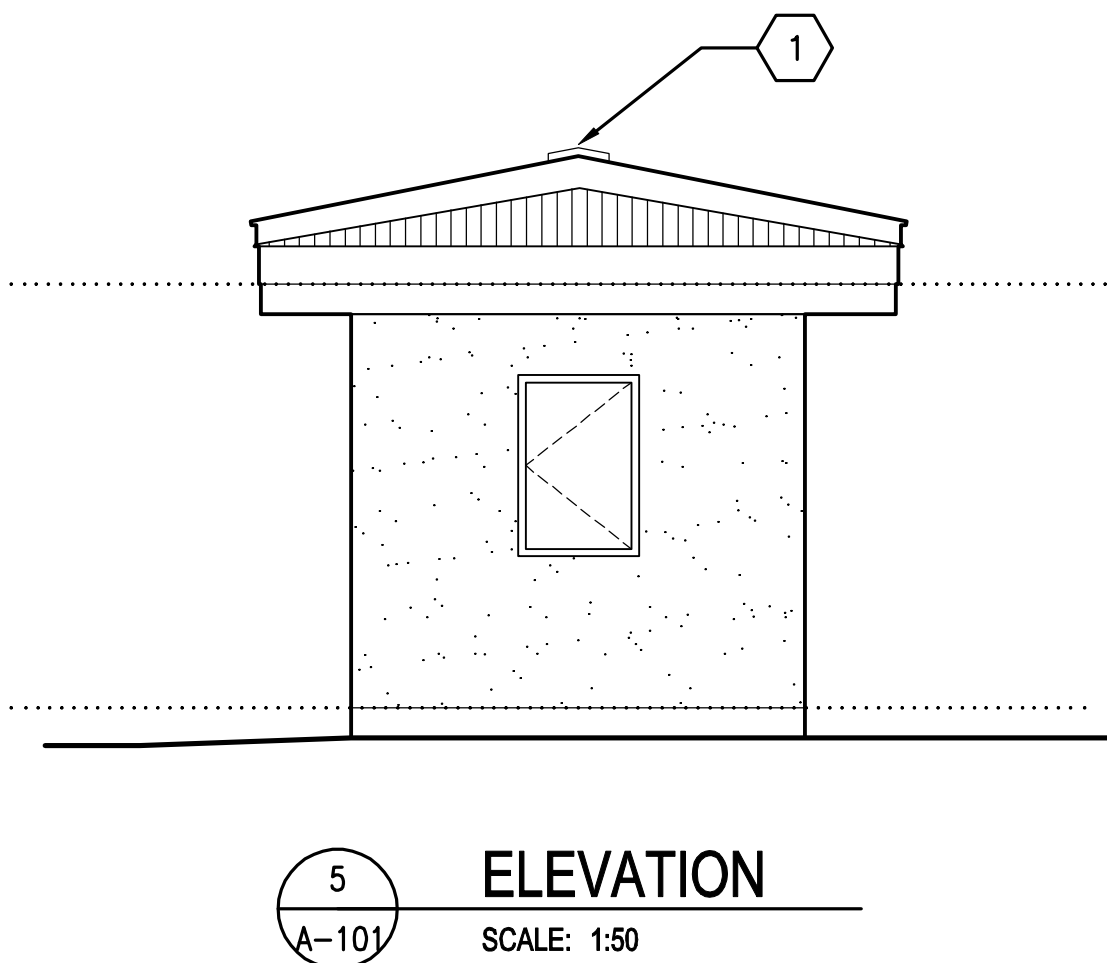
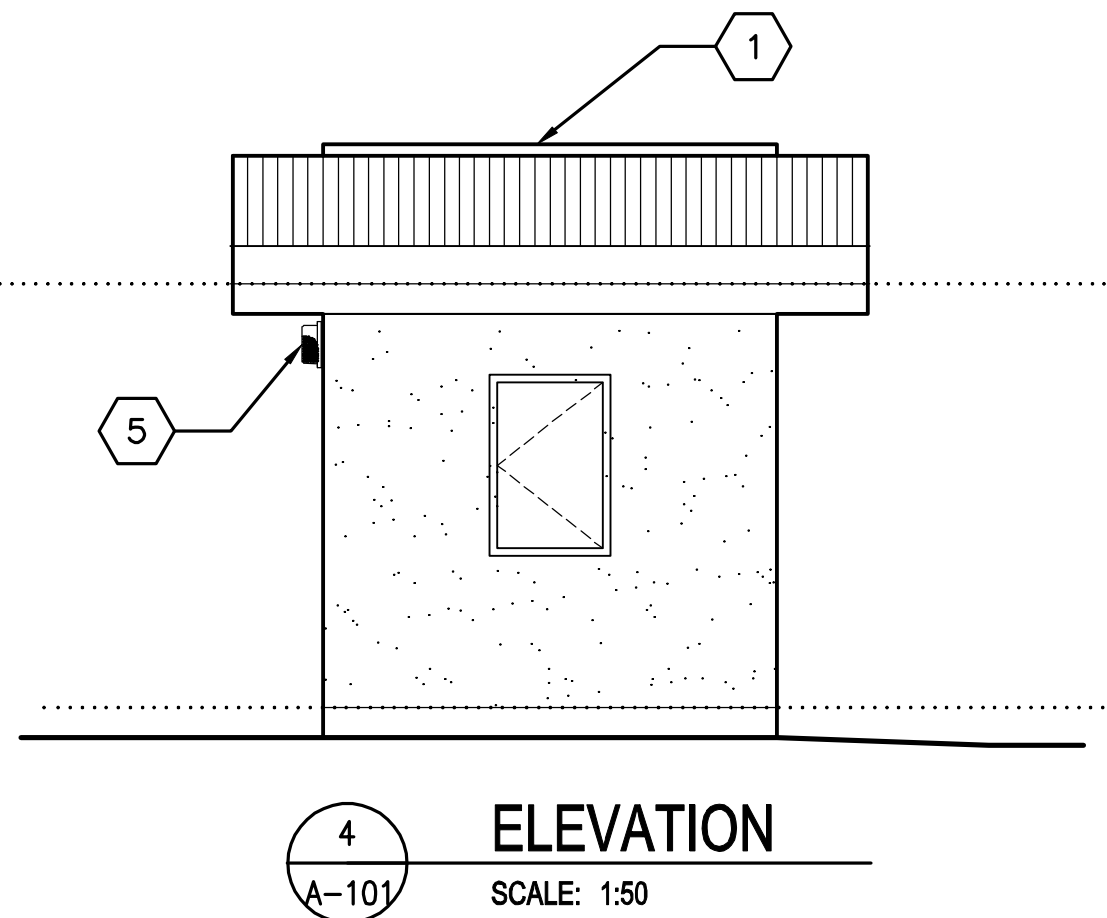
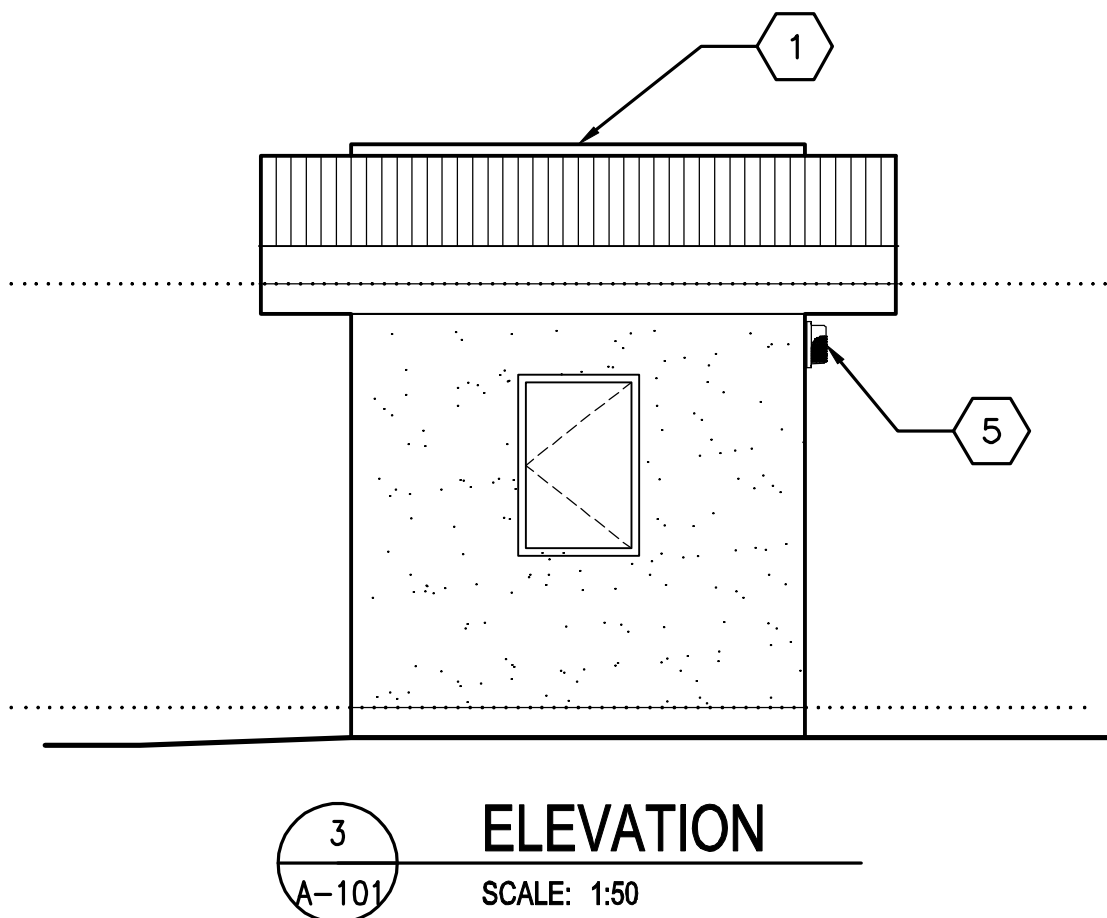
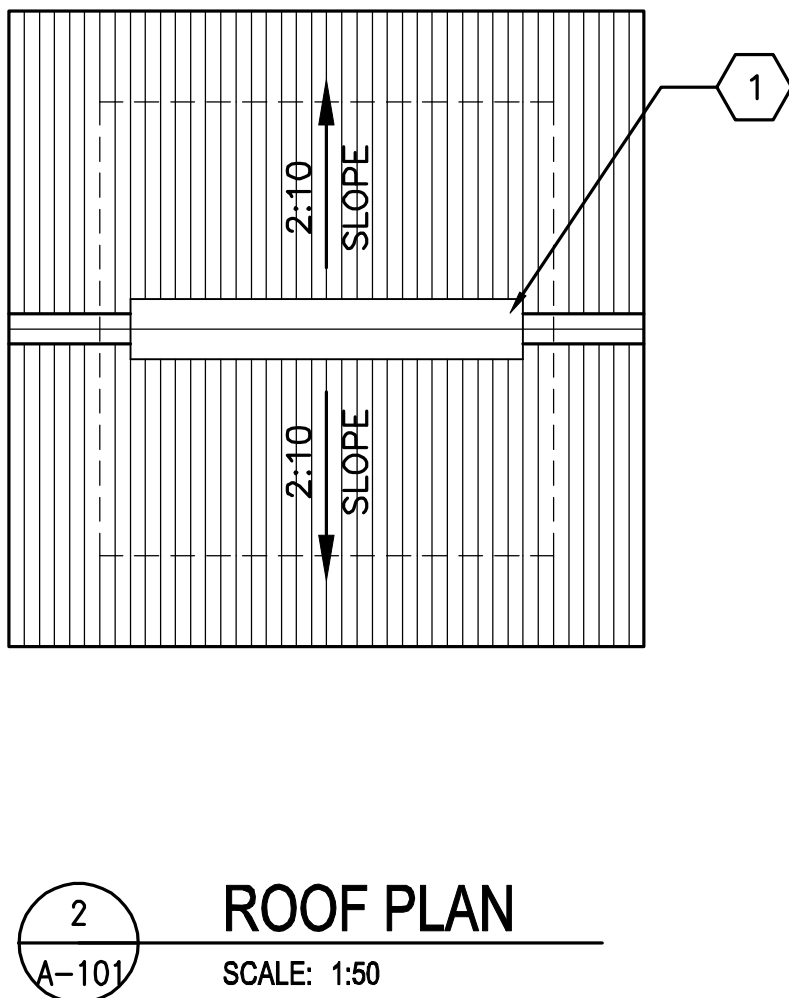
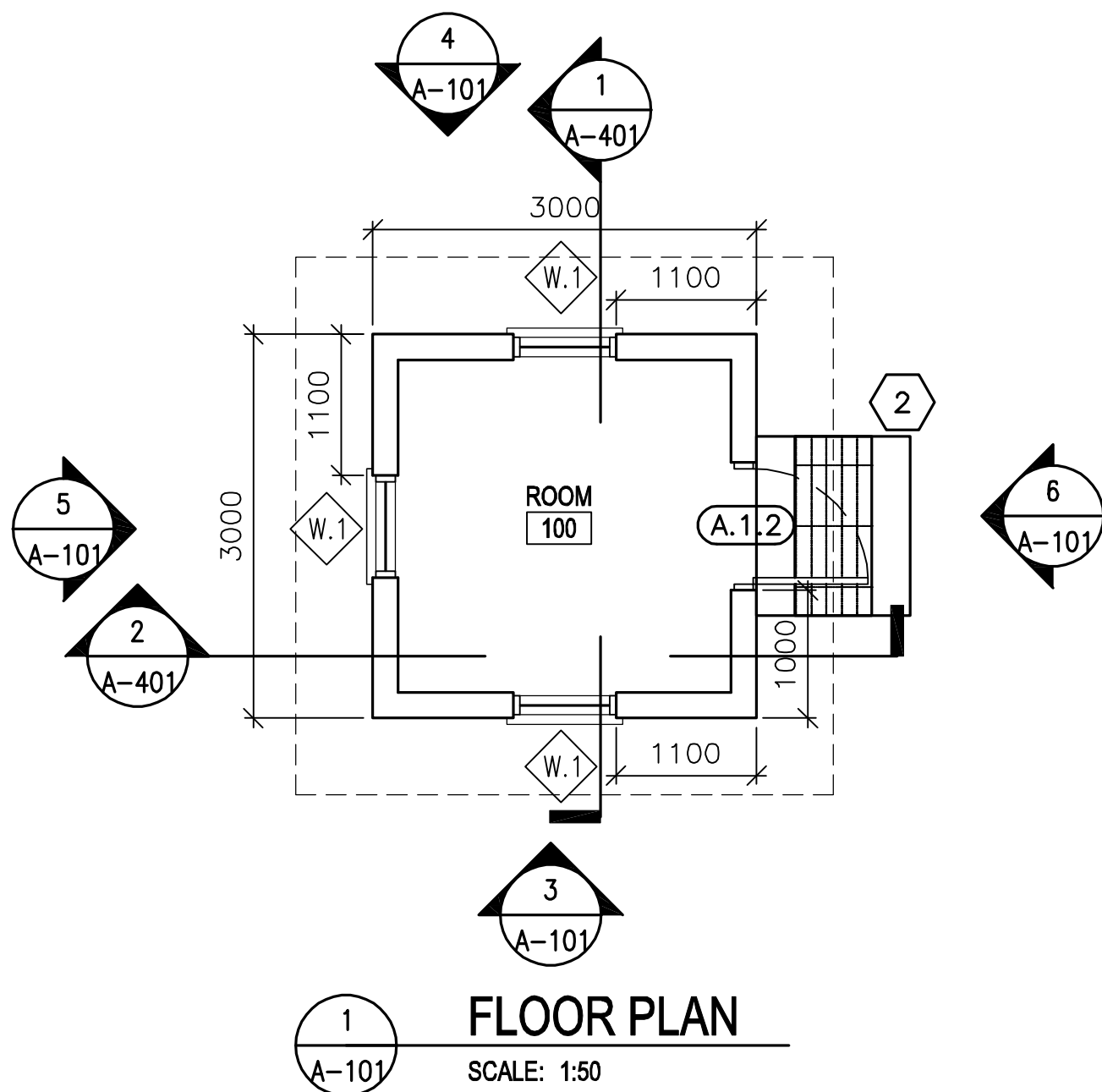


D

C

B

A



**ROOF PLAN GENERAL NOTES:**

- A. THE APPROXIMATE LOCATION OF ROOF DEVICES AND PENETRATIONS ARE SHOWN ON THE ROOF PLAN FOR INFORMATION ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR UNDERSTANDING THE ACTUAL LOCATION OF THESE AND ALL OTHER ITEMS PRIOR TO BEGINNING CONSTRUCTION. COORDINATE ALL ROOF PENETRATIONS WITH STRUCTURAL, MECHANICAL AND PLUMBING WORK.
- B. UNLESS OTHERWISE NOTED, NOTES, DETAILS OR FEATURES INDICATED FOR ONE CONDITION SHALL BE APPLICABLE FOR ALL ALIKE AND SIMILAR CONDITIONS.
- C. STOCKPILING OF MATERIALS, EQUIPMENT AND ANY OTHER ITEMS ON THE ROOF IS PROHIBITED.
- D. ROOFS SHALL BE CORRUGATED METAL ROOF PANELS ON COLD-FORMED METAL FRAMING ON CONCRETE SLAB.

**ROOF PLAN KEY NOTES:**

- 1. CONTINUOUS METAL RIDGE VENT SEE DETAIL 4/A-501.

**ELEVATION GENERAL NOTES:**

- A. COORDINATE SIZE AND LOCATION OF OPENINGS FOR MECHANICAL ITEMS WITH MECHANICAL DRAWINGS.
- B. PROVIDE STRUCTURAL LINTELS AS REQUIRED – SEE STRUCTURAL DRAWINGS
- C. ALL EXTERIOR WALL FINISHES SHALL BE STUCCO OVER CMU AND CONCRETE SUBSTRATES.
- D. ROOF SHALL BE CORRUGATED METAL ROOF PANELS ON COLD-FORMED METAL FRAMING ON CONCRETE SLAB.

**ELEVATION KEY NOTES:**

- 1. CONTINUOUS METAL RIDGE VENT – SEE DETAIL 4/A-501.
- 2. NOT USED
- 3. NOT USED
- 4. NOT USED
- 5. EXTERIOR LIGHT FIXTURE – SEE ELECTRICAL.

**FLOOR PLAN GENERAL NOTES:**

- A. DIMENSIONS ARE SHOWN TO OUTER EDGE OF EXTERIOR STRUCTURAL COLUMNS, STRUCTURAL COLUMN GRID, EDGE OF INTERIOR PARTITIONS, EDGE OF WINDOW OPENINGS, AND TO HINGE SIDE OF DOOR FRAME OPENINGS.
- B. HINGE SIDE OF OPENINGS FOR DOORS AND FRAMES SHALL BE LOCATED 200 MM FROM THE ADJACENT WALL, UNLESS NOTED OTHERWISE.
- C. COSMETIC REPAIR OF MINOR DEFECTS: REPAIR OR FILL MORTAR JOINTS AND MINOR DEFECTS, INCLUDING BUT NOT LIMITED TO SPALLS, IN ACCORDANCE WITH MANUFACTURER’S RECOMMENDATIONS AND PRIOR TO COATING APPLICATION. SURFACES TO BE PAINTED SHALL BE CLEAN AND FREE OF FOREIGN MATTER BEFORE APPLICATION OF PAINT. CLEANING SHALL BE SCHEDULED SO THAT DUST AND OTHER CONTAMINANTS WILL NOT FALL ON NEWLY PAINTED SURFACES.
- D. CONCRETE, PLASTER AND MASONRY SURFACES SHALL BE ALLOWED TO CURE FOR AT LEAST 30 DAYS BEFORE PAINTING. CONCRETE SLABS-ON-GRADE SHALL BE ALLOWED TO CURE 90 DAYS BEFORE STAINING OR SEALING.
- E. DO NOT USE PAINT MATERIALS CONTAINING LEAD CONTENT IN EXCESS OF 0.009 PERCENT OF THE WEIGHT OF THE TOTAL NONVOLATILE CONTENT OF THE PAINT OR THE WEIGHT OF THE DRIED PAINT FILM.
- F. DO NOT USE ANY ASBESTOS CONTAINING MATERIALS (ACM) IN PROJECT. ACM IS DEFINED AS 1% OR MORE BY VOLUME.
- G. DO NOT USE PAINT MATERIALS CONTAINING MERCURIAL FUNGICIDES.
- H. FACTORY PRIMED METAL DOORS AND FRAMES SHALL RECEIVE TWO COATS OF PAINT.
- I. FILL REMAINING SPACE AT PENETRATIONS IN FIRE-RATED FLOORS, PARTITIONS AND CEILINGS WITH APPROPRIATE FIRESTOPPING MATERIALS.
- J. ALL CEILING FINISHES SHALL BE PAINTED PLASTER APPLIED TO STRUCTURE.
- K. ALL WALL FINISHES SHALL BE PAINTED PLASTER APPLIED TO STRUCTURE.
- L. ALL FLOOR FINISHES SHALL BE SEALED CONCRETE.

**FLOOR PLAN KEY NOTES:**

- 1. LINE OF ROOF OVERHANG ABOVE.
- 2. CONCRETE STOOP WITH GRATE – SEE DETAIL 1/A-503.

**LEGEND:**

- XXX DOOR FRAME AND HARDWARE TYPE, SEE SHEET A-601
- A WINDOW TYPE, SEE SHEET A-601
- X KEY NOTE

**ABBREVIATIONS:**

- ELEC ELECTRICAL
- MECH MECHANICAL
- JAN JANITOR
- CLOS CLOSET
- COMM COMMUNICATIONS

LINEAR DIMENSIONS SHOWN ARE IN MILLIMETERS (MM), UNLESS OTHERWISE NOTED

0 1000 2000  
SCALE: 1:50

APPROVED: *X. R. Chafin*  
A/E DESIGNER OF RECORD  
SEAL:  
STATE OF SOUTH CAROLINA  
KEVIN R. CHAFIN  
N. Charleston, SC 6374  
REGISTERED ARCHITECT

US ARMY CORPS OF ENGINEERS  
AFGHANISTAN  
ENGINEER DISTRICT

Date	Rev.	Description	Mark
2/23/10 <td>0<td></td><td></td></td>	0 <td></td> <td></td>		

Designed by: KRC  
Dwn by: AAR  
Cdd by: NLJ  
Reviewed by: LHM  
Submitted by: BAKER

File name: ANAF04-101RFP  
Plot date: 2/23/2010  
Plot scale: XX

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AFGHANISTAN ENGINEER DISTRICT  
APO AE 96338

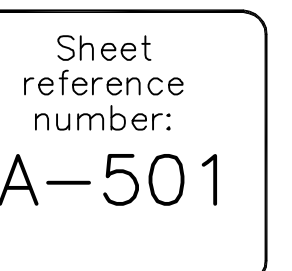
Michael Baker Jr., Inc  
A unit of Michael Baker Corporation  
Arlide Business Park  
100 Arside Drive  
Arlide, PA 15108  
www.mbakercorp.com

AFGHAN NATIONAL ARMY  
REGIONAL MILITARY TRAINING CENTER  
STANDARD DESIGN

FUEL OPERATORS BUILDING  
FLOOR PLAN, ROOF PLAN  
& ELEVATIONS

Sheet reference number:  
**A-101**





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SCALE: 1:10

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U.S. ARMY CORPS OF ENGINEERS FEDERAL ACQUISITION DISTRICT WASHINGTON, DC 20310	Drawing title no. Design file no. Date by AAR NJL Qtd by LHM Reviewed by Submitted by File name: ANAF04-00248 Plot date: 2/23/2010 Plot scale: x:1
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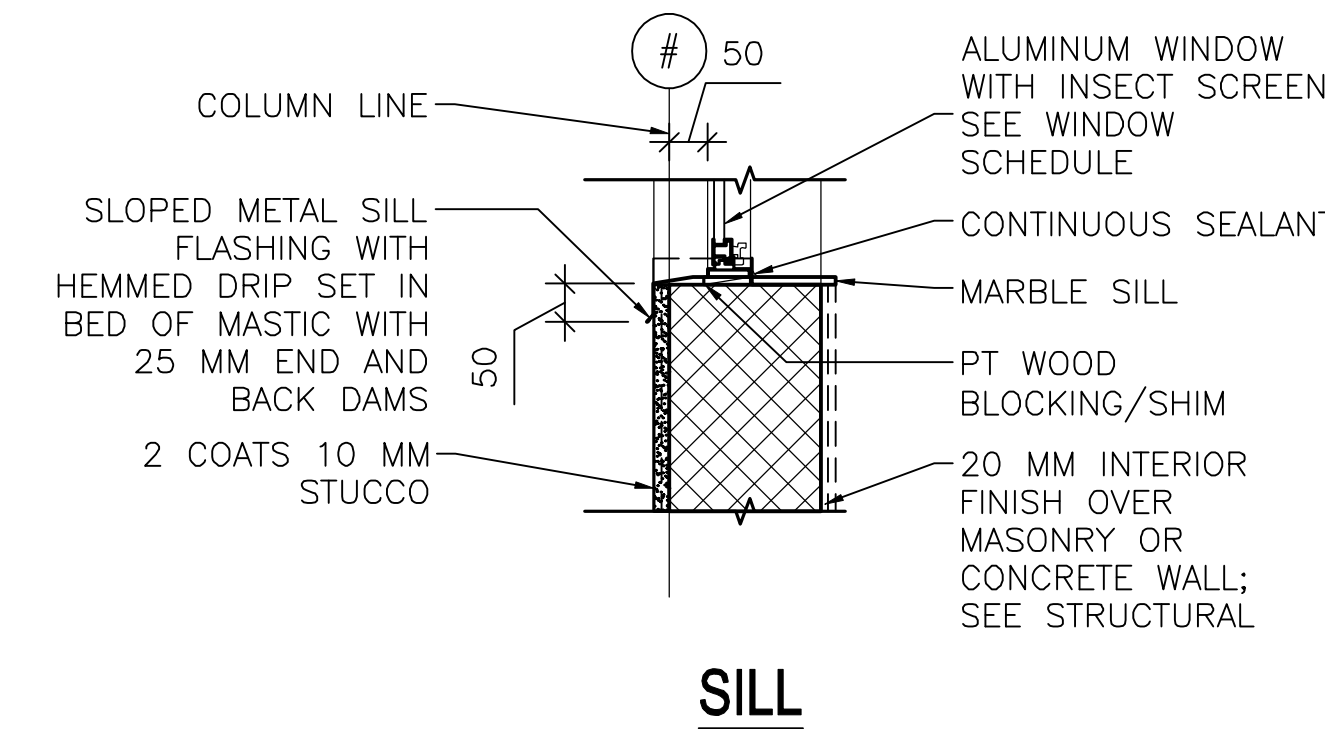
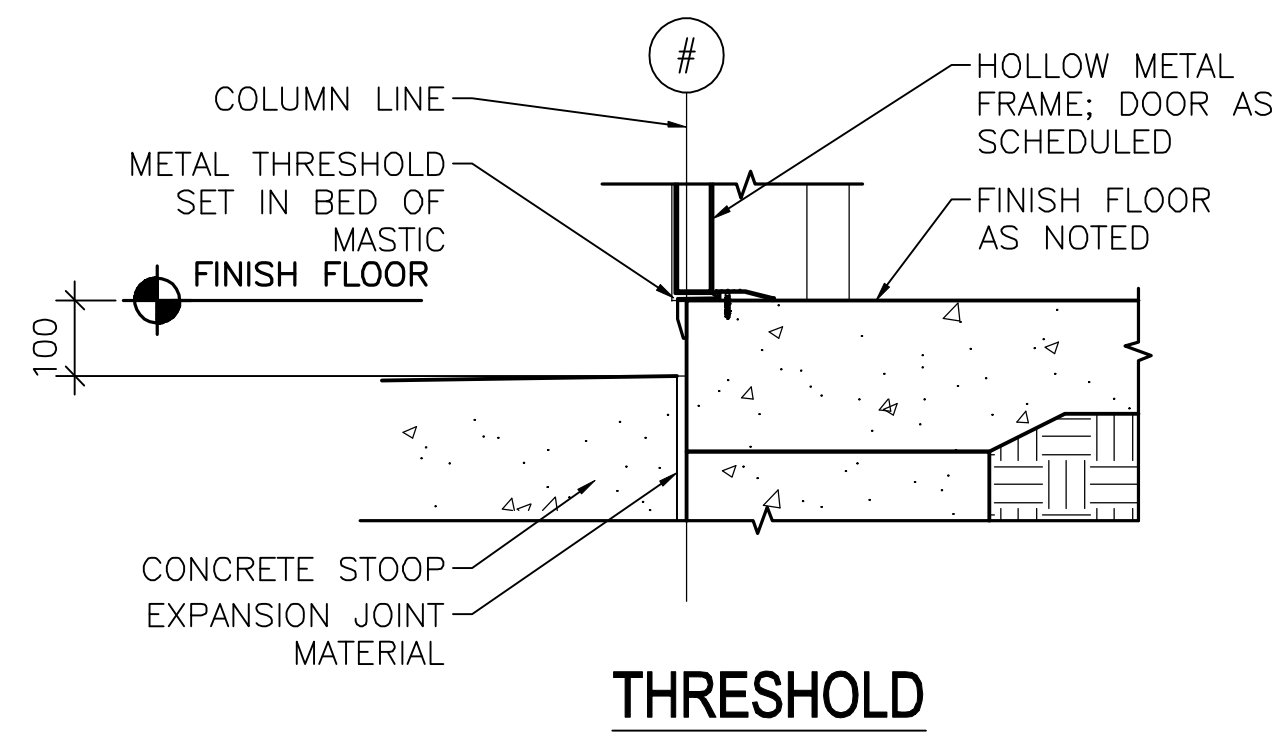
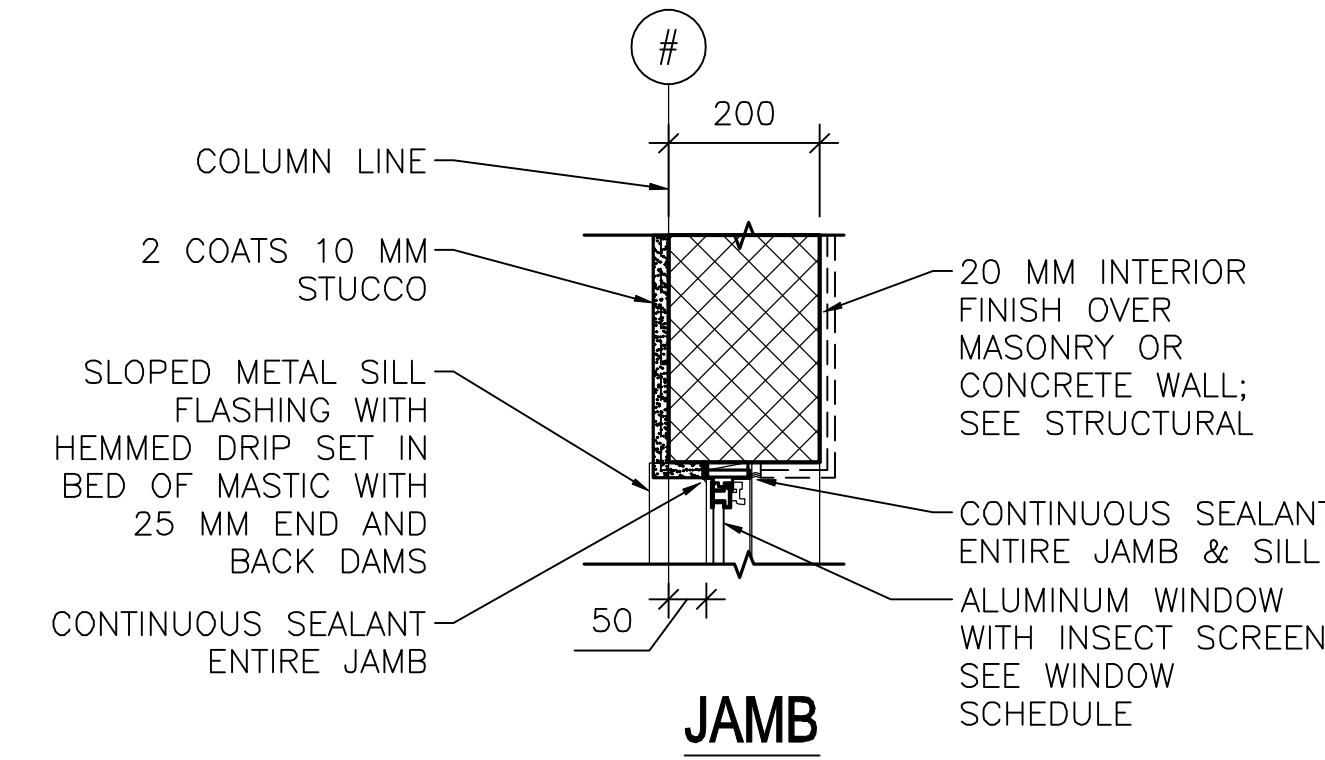
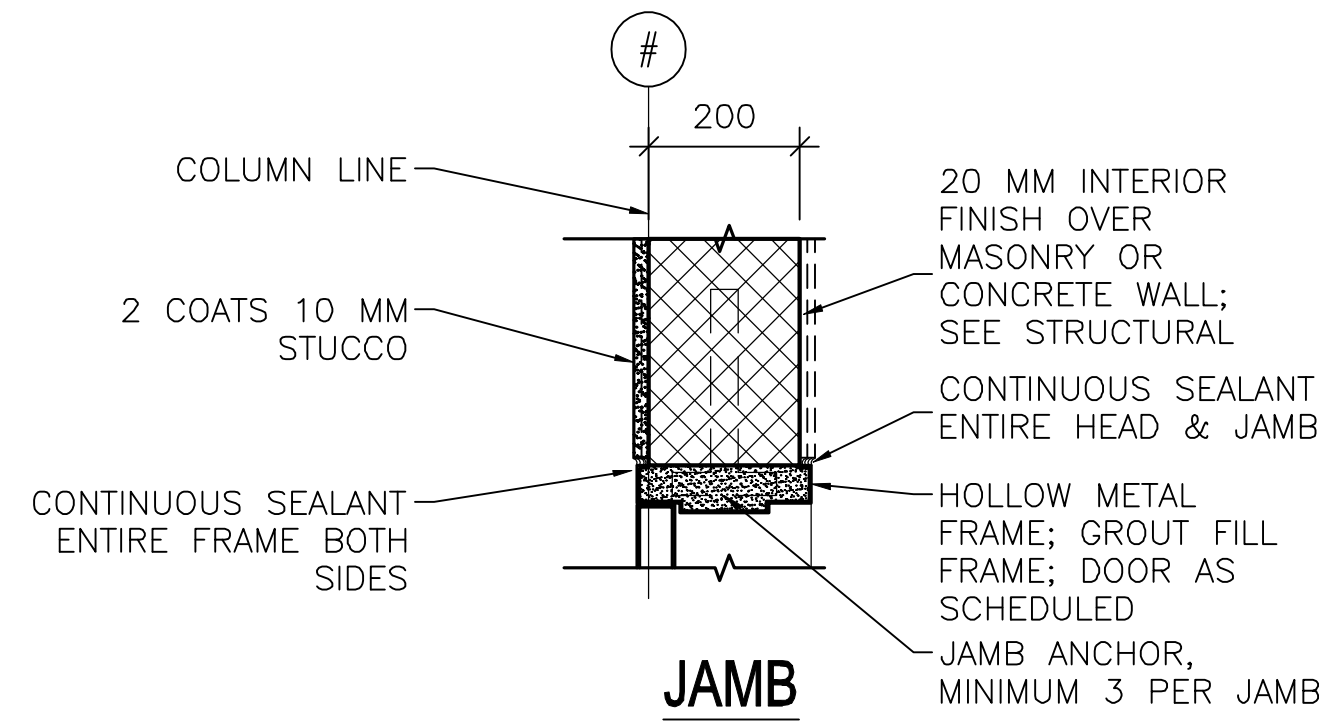
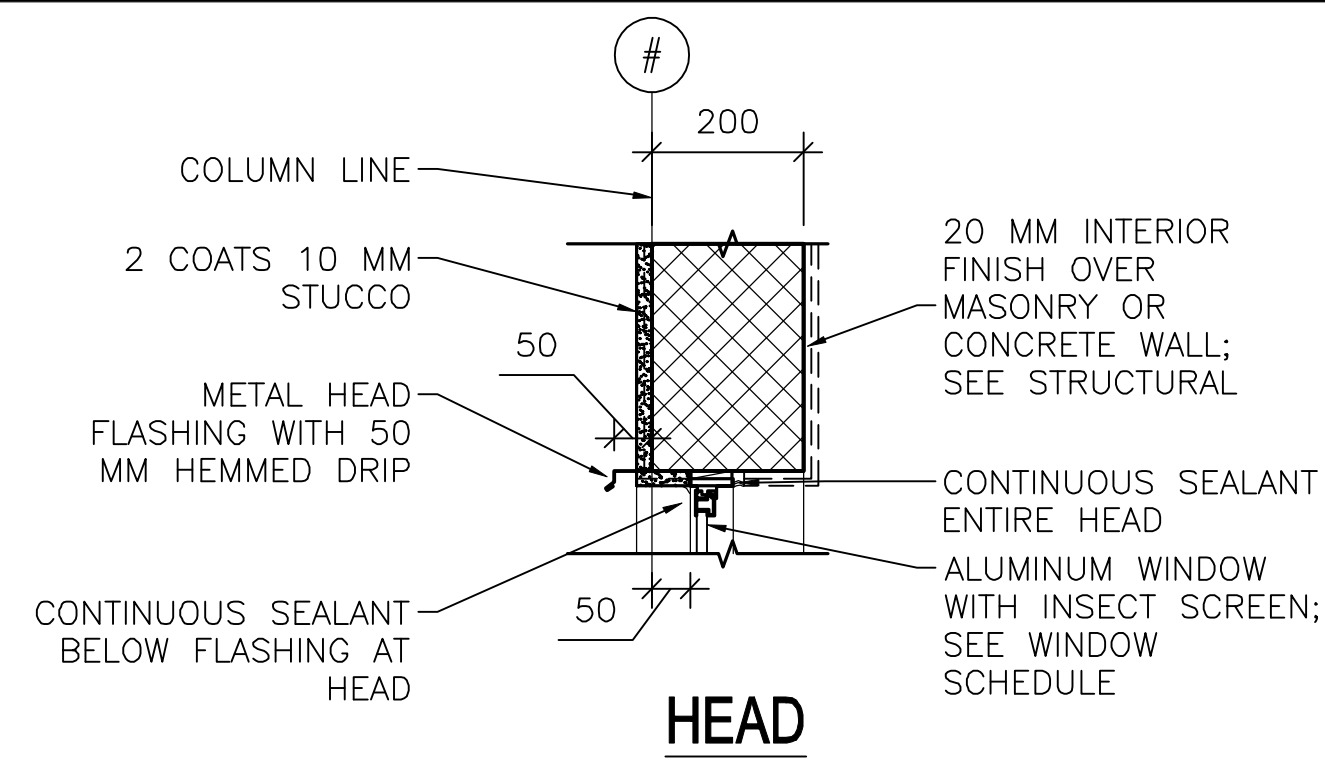
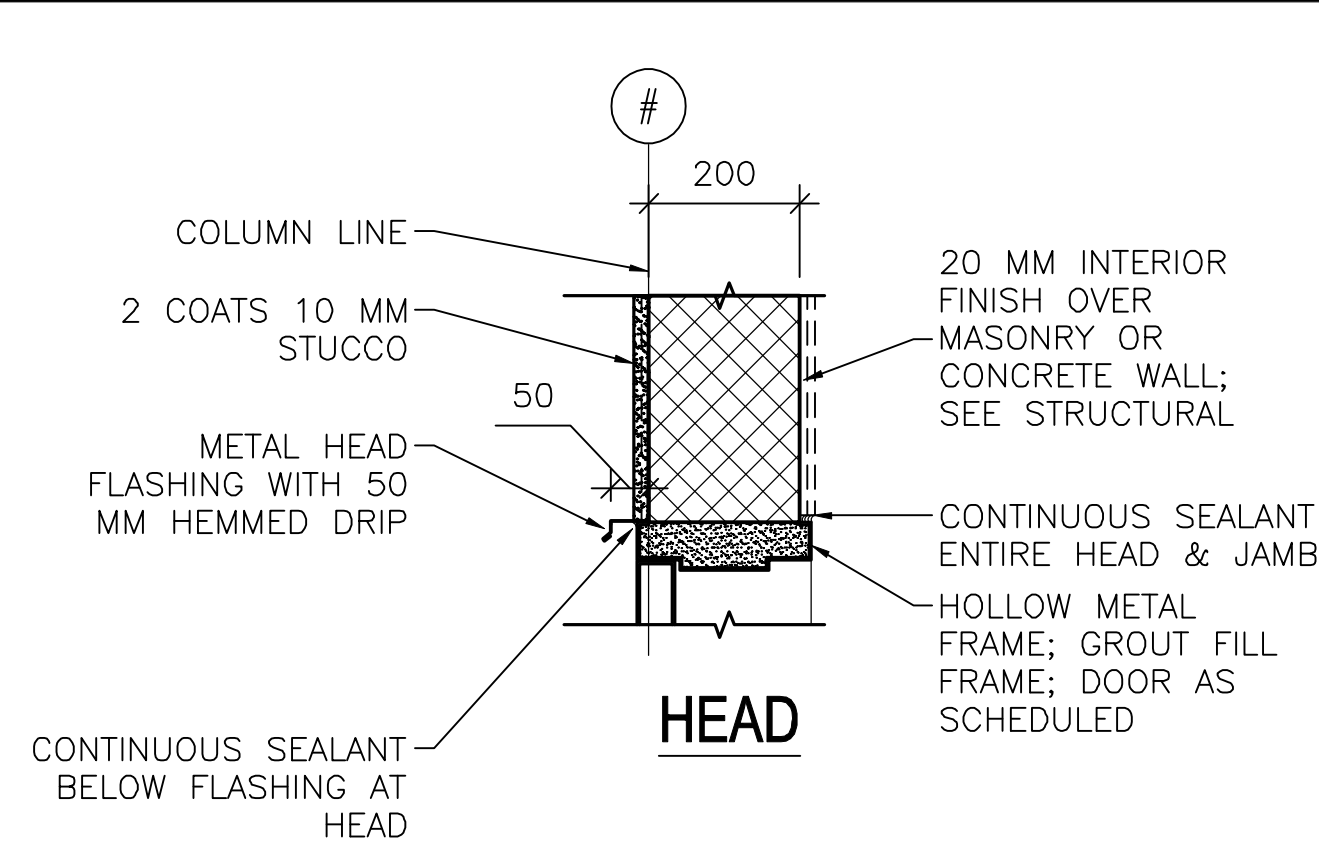
AFGHAN NATIONAL ARMY  
REGIONAL MILITARY TRAINING CENTER  
STANDARD DESIGN

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FUEL OPERATORS BUILDING

HEAD, JAMB & SILL  
DETAILS

Sheet  
reference  
number:  
A-502



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A-502

# EXTERIOR DOOR DETAILS

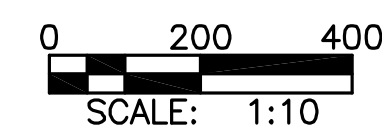
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A-502

# EXTERIOR WINDOW DETAILS

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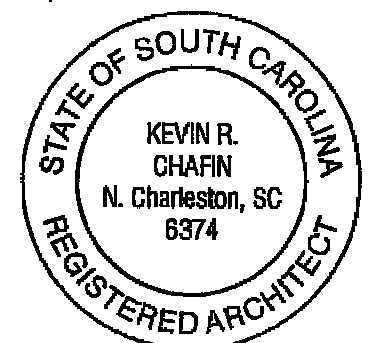
LINEAR DIMENSIONS SHOWN  
ARE IN MILLIMETERS (MM),  
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A/E DESIGNER OF RECORD

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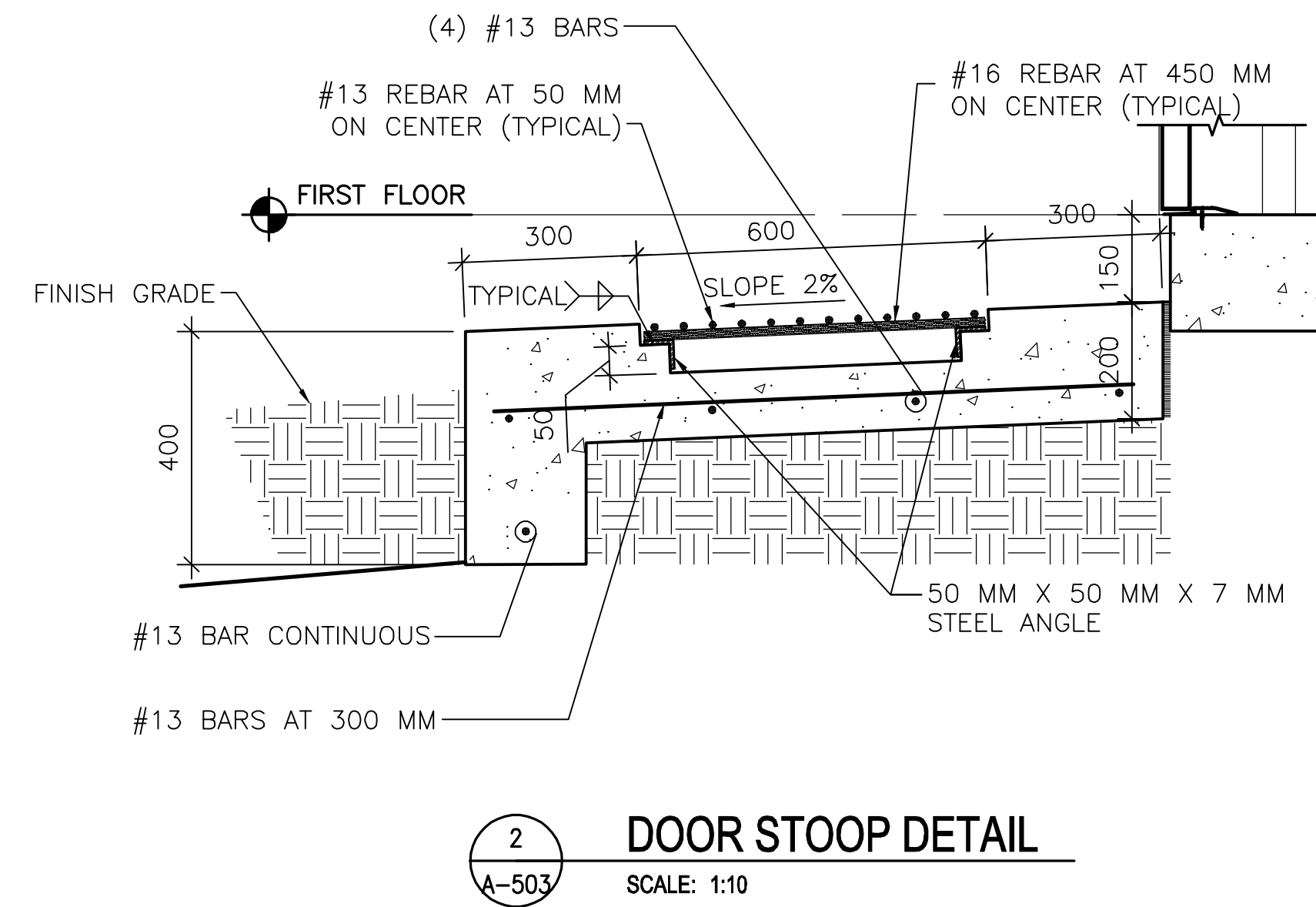
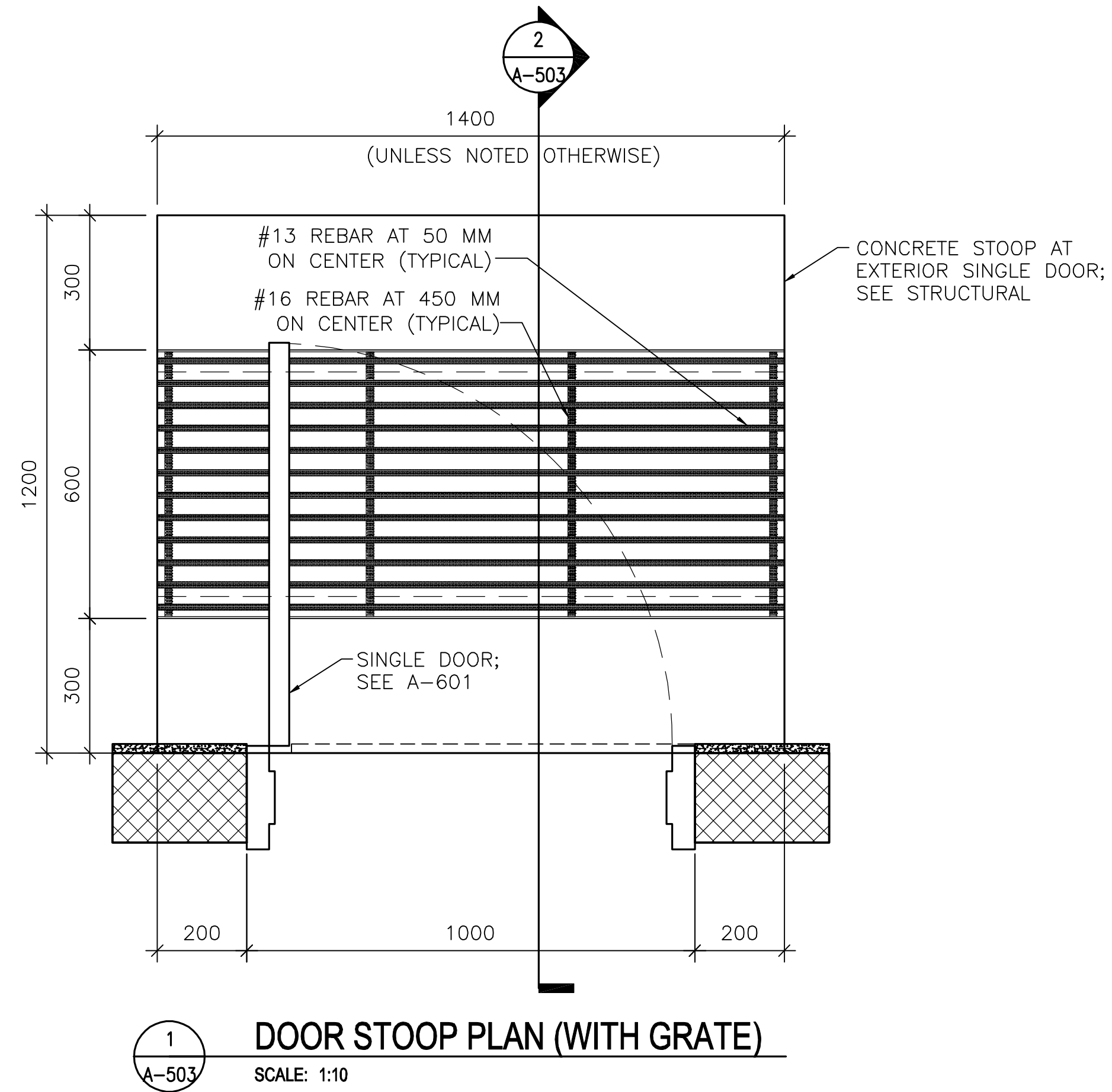


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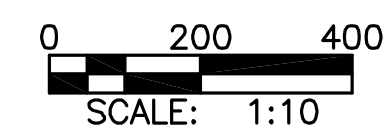
U.S. ARMY CORPS OF ENGINEERS AFGHANISTAN ENGINEER DISTRICT	Michael Baker Corp. A unit of Michael Baker Corporation 100 Alameda Drive Moon Township, PA 15108 www.mbakercorp.com	Dwn by: AAR	KRC	Design file no. 3/05/10	0
		Reviewed by: LHM		Drawing code: NLJ	
		Submitted by: BAKER		File name: AMN060-00007 Project: 000070 Plot scale: XXX	


REGIONAL MILITARY TRAINING CENTER  
STANDARD DESIGN

Sheet  
reference  
number:  
A-503



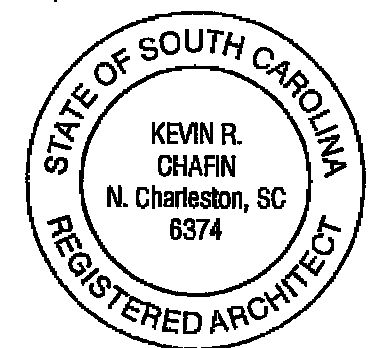
LINEAR DIMENSIONS SHOWN  
ARE IN MILLIMETERS (MM),  
UNLESS OTHERWISE NOTED



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SEAL:



FUEL OPERATORS BUILDING

FUEL OPERATORS BUILDING

## DETAILS

Sheet  
reference  
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A-503



US ARMY CORPS  
OF ENGINEERS  
AFGHANISTAN  
ENGINEER DISTRICT

THIS SHEET IS STANDARD AND IS INCLUSIVE OF ALL THE DOOR/  
WINDOW/ HARDWARE TYPES FOR THE ENTIRE RMTc CONTRACT. NOT  
ALL DOOR/ WINDOW/ HARDWARE TYPES ARE USED FOR ANY  
PARTICULAR BUILDING DESIGN. CONTRACTOR SHALL REFER TO THE  
FLOOR PLAN FOR THE TYPES BEING USED.

### INTERIOR DOOR HARDWARE TYPES:

- HW-5 1-1/2 PR HINGES, A8133 114 X 114  
1 EA LOCKSET W/LEVER HANDLES, F08, GRADE 1  
1 EA WALL STOP, L02101 OR L02161  
3 EA DOOR SILENCERS, L03011
- HW-6 1-1/2 PR HINGES, A8112 114 X 114  
1 EA LOCKSET W/LEVER HANDLES, F08, GRADE 1  
1 EA WALL STOP, L02101 OR L02161  
1 EA OVERHEAD CLOSER, C02061, LOW RESISTANCE  
3 EA DOOR SILENCERS, L03011
- HW-7 1-1/2 PR HINGES, A8133  
1 EA LOCKSET W/LEVER HANDLES, F13 GRADE 1  
1 EA WALL STOP, L02101 OR L02161  
2 EA MOP PLATE, J103  
3 EA DOOR SILENCERS, L03011
- HW-8 1-1/2 PR HINGES, A8112  
1 EA LOCKSET W/LEVER HANDLES, F13 GRADE 1  
1 EA WALL STOP, L02101 OR L02161  
2 EA MOP PLATE, J103  
1 EA OVERHEAD CLOSER, C02061, LOW RESISTANCE  
3 EA DOOR SILENCERS, L03011
- HW-9 1-1/2 PR HINGES, A5112 114 X 114  
1 EA RIM EXIT DEVICE, TYPE 1  
1 EA CYLINDER. E09221A, GRADE 1  
1 EA OVERHEAD CLOSER, C02061, LOW RESISTANCE  
3 EA DOOR SILENCERS, L03011

### EXTERIOR DOOR HARDWARE TYPES:

- HW-1 1-1/2 PR HINGES, A5112 114 X 114  
1 EA RIM EXIT DEVICE, TYPE 1  
1 EA CYLINDER. E09221A, GRADE 1  
1 EA OVERHEAD CLOSER, C02061, LOW RESISTANCE  
1 EA THRESHOLD, J32130  
3 EA DOOR SILENCERS, L03011
- HW-2 1-1/2 PR HINGES, A5112 114 X 114  
1 EA LOCKSET, F13 ENTRY LOCK W/LEVER HANDLES, GRADE 1  
1 EA OVERHEAD CLOSER, C02061, LOW RESISTANCE  
1 EA THRESHOLD, J32130  
3 EA DOOR SILENCERS, L03011
- HW-3 3 PR HINGES, A5112 114 X 114  
2 EA RIM EXIT DEVICE, TYPE 1  
2 EA CYLINDER. GRADE 1  
2 EA OVERHEAD CLOSER, C02061, LOW RESISTANCE  
1 EA DOOR COORDINATOR, TYPE 21  
1 EA ASTRAGAL  
1 EA THRESHOLD, J32130  
2 EA DOOR SILENCERS, L03011
- HW-4 3 PR HINGES, A5112 114 X 114  
1 EA LOCKSET W/LEVER HANDLES. GRADE 1, F13  
1 EA OVERHEAD CLOSER, C02061, LOW RESISTANCE  
2 EA MAGNETIC HOLDER PIN, ATTACHED TO DOOR LEAF  
2 EA MAGNETIC HOLDER RECEIVER, ATTACHED TO STOOP  
2 EA LEVER EXTENSION FLUSH BOLTS, L04081  
1 EA ASTRAGAL  
1 EA THRESHOLD, J32130  
2 EA DOOR SILENCERS, L03011
- HW-10 3 PR HINGES, A5112 114 X 114  
1 EA LOCKSET W/LEVER HANDLES. GRADE 1, F13  
2 EA LEVER EXTENSION FLUSH BOLTS, L04081  
1 EA ASTRAGAL  
2 EA DOOR SILENCERS, L03011
- HW-11 1-1/2 PR HINGES, A8112 114 X 114  
1 EA LOCKSET W/LEVER HANDLES, F13, GRADE 1  
1 EA WALL STOP, L02101 OR L02161  
1 EA OVERHEAD CLOSER, C02061, LOW RESISTANCE  
3 EA DOOR SILENCERS, L03011  
1 EA ROBE HOOK
- HW-12 1-1/2 PR HINGES, A8133  
1 EA LATCHSET W/LEVER HANDLES, F76 GRADE 1  
1 EA WALL STOP, L02101 OR L02161  
2 EA MOP PLATE, J103  
3 EA DOOR SILENCERS, L03011  
1 EA ROBE HOOK
- HW-13 3 PR HINGES, A5112 114 X 114  
1 EA LOCKSET W/LEVER HANDLES. GRADE 1, F13  
1 EA OVERHEAD CLOSER, C02061, LOW RESISTANCE  
2 EA LEVER EXTENSION FLUSH BOLTS, L04081  
1 EA ASTRAGAL  
2 EA DOOR SILENCERS, L03011
- HW-14 3 PR HINGES, A5112 114 X 114  
2 EA RIM EXIT DEVICE, TYPE 1  
2 EA CYLINDER. GRADE 1  
2 EA OVERHEAD CLOSER, C02061, LOW RESISTANCE  
1 EA DOOR COORDINATOR, TYPE 21  
1 EA ASTRAGAL  
2 EA DOOR SILENCERS, L03011

### DOOR AND HARDWARE NOTES:

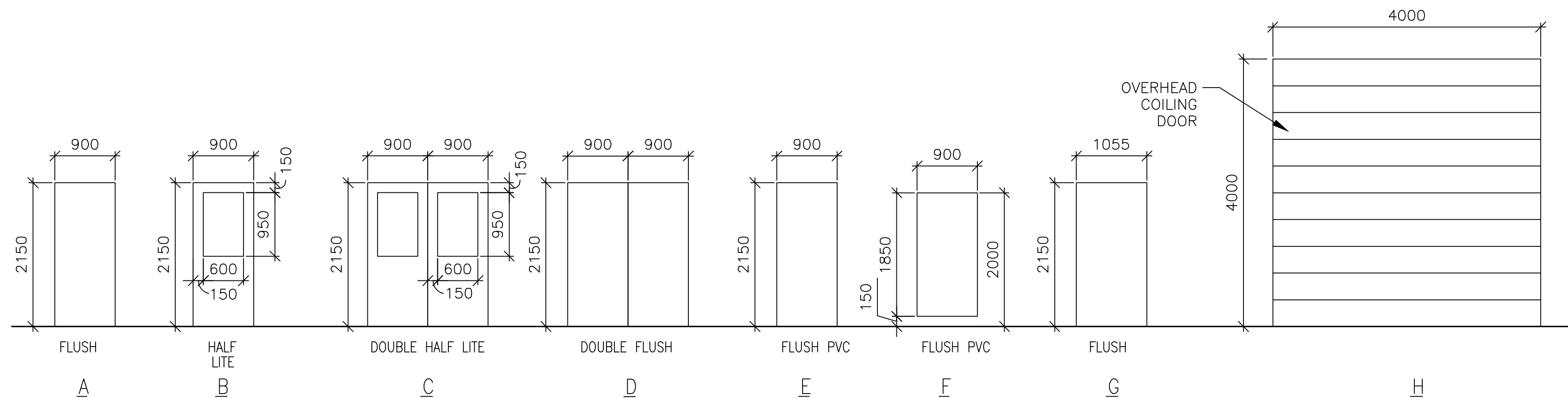
- INTERIOR AND EXTERIOR METAL DOORS AND FRAME COLORS SHALL MATCH ADJACENT WALL COLORS AS SELECTED BY THE CONTRACTING OFFICER.
- FRAMES, EXCEPT FIRE-RATED FRAMES, SHALL BE MOUNTED AND ADJUSTED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. FRAMES SHALL BE FASTENED WITH MINIMUM OF THREE ANCHORS PER JAMB AT EQUAL INTERVALS.
- DIMENSIONS SHOWN ON DOOR TYPES DETAIL ARE BASED UPON MODULAR MASONRY (OR ROUGH OPENING), HEIGHT OF 2200 MM FOR STANDARD PERSONNEL DOORS. CONTRACTOR SHALL COORDINATE WITH DOOR SUPPLIER TO ENSURE THAT DIMENSIONS OF DOORS AND FRAMES PROVIDED ARE COMPATIBLE WITH DOOR OPENING DIMENSIONS.
- HARDWARE SHALL BE HEAVY DUTY, COMMERCIAL GRADE, STAINLESS STEEL WITH A SATIN OR BRUSHED FINISH.
- HARDWARE TYPES INCLUDE BUILDERS HARDWARE MANUFACTURERS ASSOCIATION (BMHA) NUMBER.
- DOORS IN 2 HOUR RATED PARTITIONS SHALL BE 1.5 HOUR (90 MINUTE) RATED DOORS IN ACCORDANCE WITH NFPA 101, TABLE 8.3.4.2.
- DOORS AT STAIR ENCLOSURES SHALL BE 1 HOUR (60 MINUTE) RATED AT 1 HOUR WALL IN ACCORDANCE WITH NFPA 101, TABLE 8.3.4.2.
- DOORS IN 1 HOUR RATED WALLS SHALL BE 3/4 HOUR (45 MINUTE) RATED DOORS IN ACCORDANCE WITH NFPA 101, TABLE 8.3.4.2.
- DOORS IN 1 HOUR RATED CORRIDOR WALLS SHALL BE 1/3 HOUR (20 MINUTE) IN ACCORDANCE WITH NFPA 101, TABLE 8.3.4.2.
- PROVIDE DOOR STOPS TO PROTECT WALLS ON LOCATIONS WHERE DOOR SWING WILL STRIKE WALL.

### WINDOW TYPE NOTES:

- ALL EXTERIOR WINDOWS SHALL BE ALUMINUM WITH INSECT SCREENS. WINDOWS SHALL BE COMMERCIAL GRADE.
- ALL EXTERIOR WINDOWS SHALL BE OPERABLE.

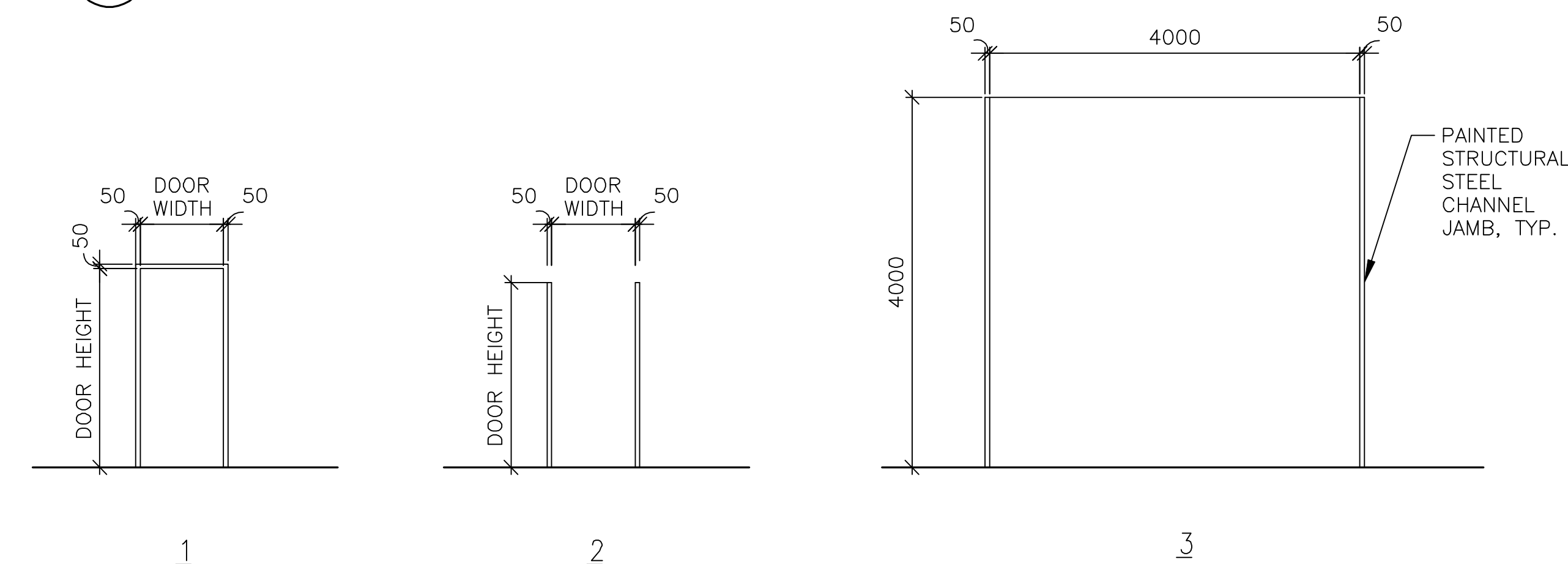
### DOOR TAG NOTES:

- THE DOOR TAG INDICATES THE DOOR TYPE, FRAME TYPE AND HARDWARE SET FOR EACH DOOR.
- THE DOOR TAG FOR RATED DOORS INCLUDES THE RATING OF THE DOOR IN MINUTES.



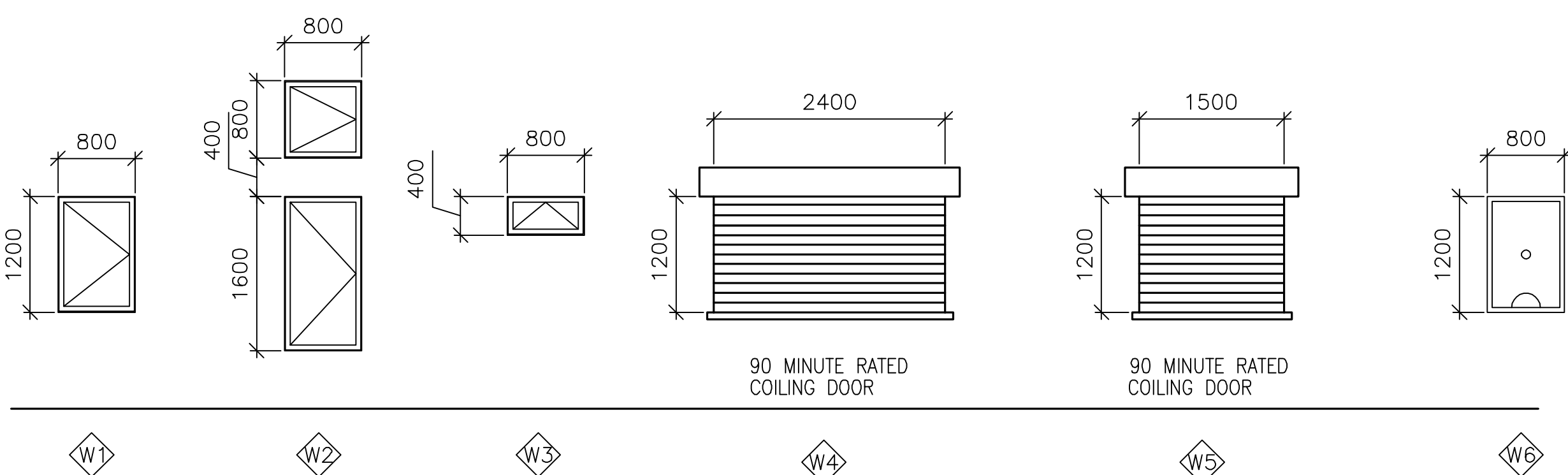
### 1 DOOR TYPES

SCALE: 1:50



### 2 FRAME TYPES

SCALE: 1:50



### 3 WINDOW TYPES

SCALE: 1:50



### 4 DOOR TAG

SCALE: NTS

### 5 RATED DOOR TAG

SCALE: NTS

Rev: 0  
Date: 2/23/10  
Design file no.

Designed by: KRC  
Dwn by: AAR  
Cld by: NLJ  
Reviewed by: LHM  
Submitted by: BAKER

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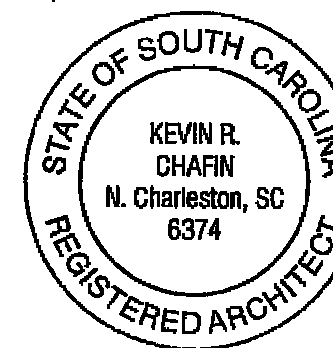
AFGHAN NATIONAL ARMY  
REGIONAL MILITARY TRAINING CENTER  
STANDARD DESIGN  
FUEL OPERATORS BUILDING  
WINDOW AND DOOR SCHEDULES

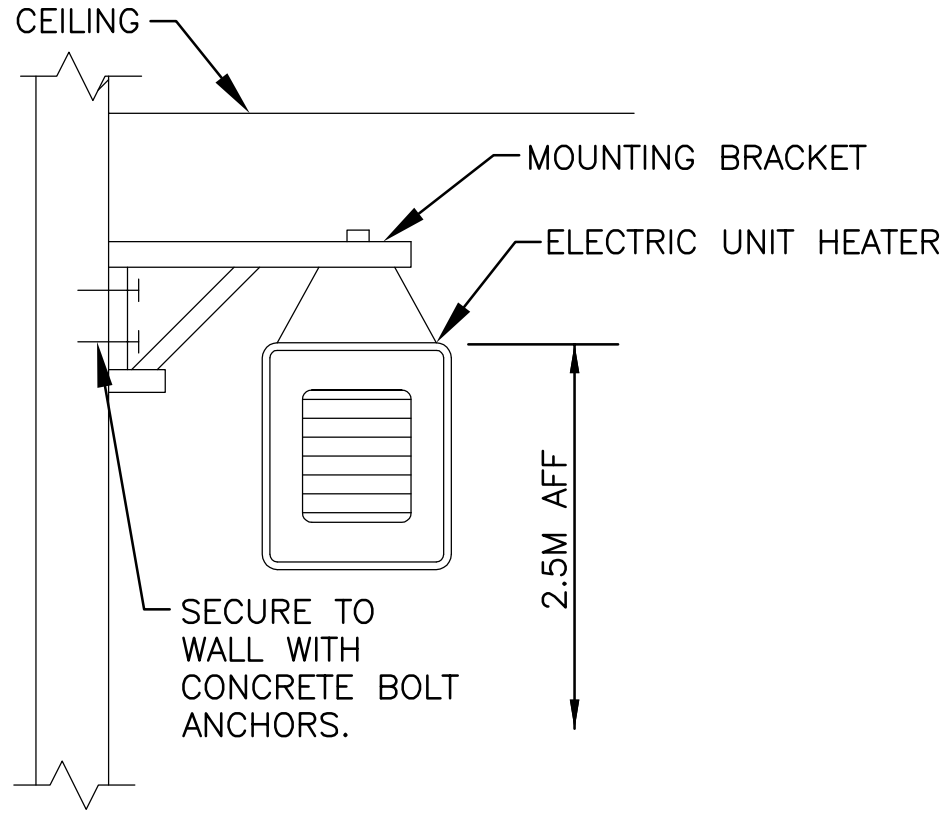
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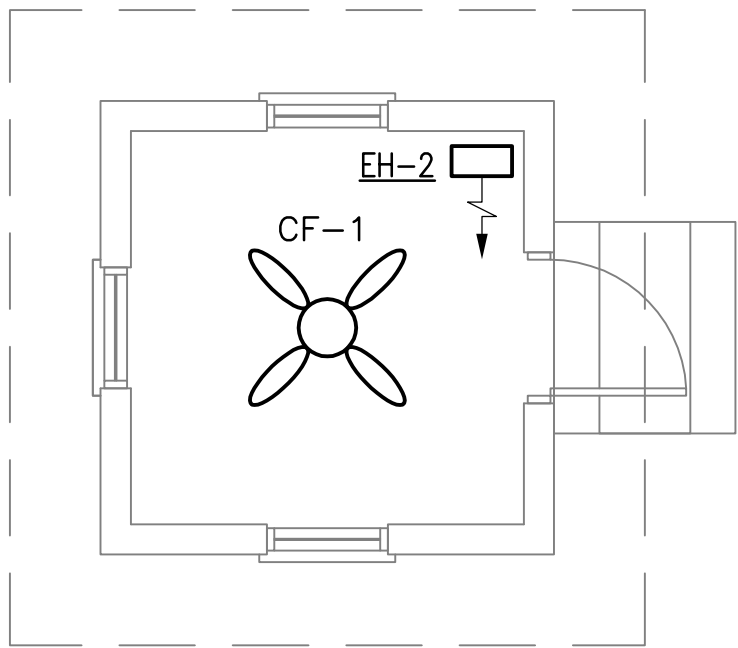
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2 ELECTRIC UNIT HEATER MOUNTING DETAIL  
M-101 N.T.S.



1 FLOOR PLAN - HVAC  
SCALE: 1:50  
M-101

GENERAL NOTES:

- DO NOT SCALE DRAWINGS – ALL DIMENSIONS AND CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE.
- ALL WORK PERFORMED ON THIS BUILDING SHALL BE IN COMPLIANCE WITH ALL PERTINENT CODES, RULES, ORDINANCES AND REGULATIONS OF THE GOVERNING AUTHORITIES.
- ALL WORK PERFORMED UNDER AND IN CONNECTION WITH THESE DRAWINGS AND SPECIFICATIONS SHALL BE IN STRICT COMPLIANCE WITH THE LATEST SAFETY AND HEALTH STANDARDS.

SYMBOLS:

- (X) KEY NOTE  
(0.050) AIR VOLUME IN CUBIC METERS PER SECOND (CMS)  
UC DOOR UNDERCUT  
TG 200x400 (8x16) TRANSFER GRILLE

ABBREVIATIONS:

- AFF ABOVE FINISH FLOOR  
CF CEILING FANS  
CMS CUBIC METERS PER SECOND  
STATS THERMOSTATS

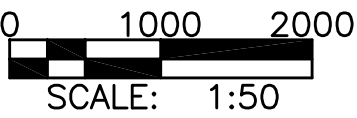
ELECTRIC UNIT HEATER SCHEDULE					
NO.	CMS	KW	F.A.T. °C	ELECT. CHAR.	MOUNTING
EH-2	.200	2.6	38	380/1/50	WALL HUNG

- NOTES:  
1. TOP OF UNIT HEATER SHALL BE MOUNTED 2.2M AFF.  
2. UNIT HEATERS SHALL HAVE TAMPER PROOF INTEGRAL STATS.  
3. COORDINATE LOCATION AND ORIENTATION IN FIELD.

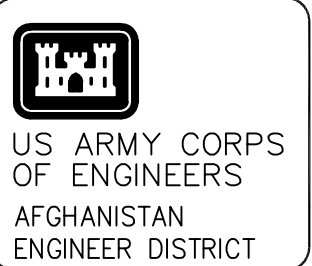
CEILING FAN					
NO.	BLADE SIZE		VOLTAGE	SWITCH	REMARKS
	mm	IN			
CF-1	1320	52	220/1/50	Ⓢ WALL	3 SPEED REVERSIBLE MOTOR

- NOTES:  
1. INSTALL FANS 2.5M AFF.  
2. PROVIDE WITH OUT LIGHT FIXTURE.  
3. PROVIDE WITH REMOTE MOUNTED ON-OFF SWITCH SHOWN ON ELECTRICAL DRAWINGS.

LINEAR DIMENSIONS SHOWN  
ARE IN MILLIMETERS (MM),  
UNLESS OTHERWISE NOTED



APPROVED:
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SEAL:



Rev.	Date	Description	Mark
0	02/23/10		

Designed by: RML	Drawn by: JUN	Checked by: CUM	Reviewed by: MRS	Submitted by: BAKER
U.S. ARMY CORPS OF ENGINEERS AFGHANISTAN ENGINEER DISTRICT APO AE 96338 Michael Baker Jr., Inc A unit of Michael Baker Corporation Arside Business Park Moon Township, PA 15108 www.mbakercorp.com				

AFGHAN NATIONAL ARMY REGIONAL MILITARY TRAINING CENTER STANDARD DESIGN	FUEL OPERATORS BUILDING HVAC – FLOOR PLAN, SCHEDULES AND DETAILS
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Sheet  
reference  
number:  
M-101






D













C



B


















A









POWER	
	DISTRIBUTION PANELBOARD
	NEW PANELBOARD – SURFACE
	NEW PANELBOARD – RECESSED
	GENERATOR
	TRANSFORMER (DRAWN TO SIZE)
	JUNCTION BOX
	JUNCTION BOX – CEILING
	FUSIBLE SAFETY SWITCH
	MOTOR
	MOTOR STARTING SWITCH – 220V, 20A RATED UNLESS OTHERWISE NOTED
	EMERGENCY POWER OFF BUTTON
	ELECTRIC WATER HEATER
	CEILING FAN – REFER TO SPECIFICATION SECTION 26 20 00



RECEPTACLES	
	DUPLEX 20A TYPE CEE 7/7 "SCHUKO STYLE" UNSWITCHED RECEPTACLE
	DUPLEX 20A TYPE CEE 7/7 "SCHUKO STYLE" UNSWITCHED RECEPTACLES – 10mA GROUND FAULT INTERRUPTER TYPE
	DUPLEX 20A TYPE CEE 7/7 "SCHUKO STYLE" UNSWITCHED TYPE WITH WEATHERPROOF COVER – 10mA GROUND FAULT INTERRUPTER TYPE
	DUPLEX 20A TYPE CEE 7/7 "SCHUKO STYLE" UNSWITCHED RECEPTACLES – EXPLOSION PROOF
	INDICATES MOUNT DEVICE ABOVE COUNTERTOP OR AT 1070mm ABOVE FINISHED FLOOR WHERE NO COUNTER IS TO BE INSTALLED.







LIGHTING	
	LIGHTING FIXTURE – SEE FIXTURE SCHEDULE FOR MORE INFORMATION
	
	EMERGENCY LIGHTING FIXTURE – SEE FIXTURE SCHEDULE FOR MORE INFORMATION
	
	DOWNLIGHT
	LIGHTING FIXTURE ON NORMAL/EMERGENCY
	WALL MOUNTED LIGHT FIXTURE
	EXIT SIGN – DIRECTIONAL ARROWS AS INDICATED ON DRAWINGS
	REMOTE HEAD FOR BATTERY PACK
	SINGLE POLE SWITCH – 20A RATED
	3–WAY SWITCH – 20A RATED
	4–WAY SWITCH – 20A RATED

TELECOMMUNICATIONS	
	TELEPHONE OUTLET(S) @ 45cm AFF. U.N.O. WITH 20mm RACEWAY TERMINATED TO TELEDATA TERMINAL BOARD.
	DATA OUTLET(S) @ 45cm AFF. U.N.O. WITH 20mm RACEWAY TERMINATED TO TELEDATA TERMINAL BOARD.

TELECOMMUNICATIONS (CONTINUED)	
	COMBINATION TELEPHONE/DATA OUTLET(S) @ 45cm AFF. U.N.O. WITH 27mm RACEWAY TERMINATED TO TELEDATA TERMINAL BOARD.
	WALL MTD. TELEPHONE OUTLET WITH 20mm RACEWAY TO TELEDATA TERMINAL BOARD.
	INDICATES NUMBER OF TELEPHONE OUTLET(S) AND ASSOCIATED CABLING
	INDICATES NUMBER OF DATA OUTLET(S) AND ASSOCIATED CABLING
	INDICATES NUMBER OF TELEPHONE OUTLETS AND ASSOCIATED CABLING WITH 1 OUTLET AND CABLE DEDICATED FOR FAX
SINGLE LINE SYMBOLS	
	SWITCH
	BREAKER
	FUSE
	TRANSFORMER
	GROUND
	CONTACT (NORMALLY OPEN)
	CONTACT (NORMALLY CLOSED)
	TRANSFER SWITCH
	CURRENT TRANSFORMER
	INDICATES NEW ELECTRICAL EQUIPMENT
	INDICATES NEW CONTROL WIRING AND CONDUIT
	EQUIPMENT OUTLINE

MISCELLANEOUS	
	BRANCH CIRCUIT WIRING, SURFACE MOUNTED ON WALLS
	BRANCH CIRCUIT WIRING – 6mm²
	BRANCH CIRCUIT WIRING – UNDER FLOOR
	HOME RUN BACK TO PANEL
	CONDUIT TURNED DOWN
	CONDUIT TURNED UP
	LOW VOLTAGE WIRING AND CONDUIT
	INDICATES CONTINUATION OF LINE

FIRE ALARM	
	FIRE ALARM CONTROL PANEL WITH BATTERY BACKUP
	FIRE ALARM PULL STATION

FIRE ALARM (CONTINUED)	
	FIRE ALARM STROBE – WALL MOUNTED
	FIRE ALARM AUDIBLE/STROBE – WALL MOUNTED
	FIRE ALARM HORN/STROBE – WALL MOUNTED
	SMOKE DETECTOR
	HEAT DETECTOR CEILING MOUNTED
	DUCT DETECTOR – PROVIDED BY EC, INSTALLED BY MC AND CONNECTED BY EC

DENOTATIONS & ABBREVIATIONS	
AFF	ABOVE FINISHED FLOOR
C	CEILING MOUNTED
E	EMERGENCY
EC	ELECTRICAL CONTRACTOR
EPO	EMERGENCY POWER OFF
EXP	EXPLOSION PROOF
F	FIRE ALARM
FF	FLUSH FLOOR MOUNTED
FL	FLUORESCENT
FO	FIBER OPTIC
FSS	FUSED SAFETY SWITCH
GF	GROUND FAULT INTERRUPTER
GC	GENERAL CONTRACTOR
IG	ISOLATED GROUND
K	KEY
LV	LOW VOLTAGE
M	MOTOR
MC	MECHANICAL CONTRACTOR
NE	NORMAL/EMERGENCY
NFSS	NON–FUSED SAFETY SWITCH
PA	PAGING SYSTEM
PLC	PLUMBING CONTRACTOR
SL	SINGLE LINE
T	TELEPHONE

DENOTATIONS & ABBREVIATIONS (CONT.)	
TP	TAMPER PROOF
UE	UNDERGROUND ELECTRIC
W	WALL MOUNTED
WP	WEATHERPROOF WITH GROUND FAULT INTERRUPTION
WT	WATER TIGHT
GENERAL PROJECT NOTES:	
G1.UNLESS OTHERWISE NOTED, PROVIDE ALL EQUIPMENT SHOWN ON THE PLANS. THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL SYMBOLS SHOWN ON THE PLANS WITH THE SYMBOL LIST. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE INTENT OF ANY SYMBOL THAT IS SHOWN ON THE PLANS AND NOT INDICATED ON THE SYMBOL LIST WITH THE ENGINEER PRIOR TO BID.	
G2.THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES WITHIN THE CONSTRUCTION AREA THREE (3) WORKING DAYS NOTICE BEFORE COMMENCING DIGGING. NOTIFY THE LOCAL AUTHORITY HAVING JURISDICTION AND WAIT THE REQUIRED TIME BEFORE COMMENCING TO DIG.	
G3.THE CONTRACTOR SHALL COORDINATE CONDUIT RUNS, LIGHTING FIXTURES AND OTHER EQUIPMENT LOCATIONS WITH THE OTHER TRADE CONTRACTORS TO AVOID CONFLICTS.	
G4.WHERE VOLTAGES AND FREQUENCIES ON THE DRAWINGS AND IN THE SPECIFICATIONS DIFFER FROM THE LOCAL ONES, ALL WORK SHALL BE PERFORMED USING THE LOCAL VOLTAGES AND FREQUENCIES.	
G5.THE MINIMUM WIRE SIZE ON THE PROJECT SHALL BE 4mm². THE MINIMUM CONDUIT SIZE SHALL BE 20mm. THE MINIMUM BREAKER SIZE SHALL BE 20 AMPS.	
G6.THE CONTRACTOR SHALL PUT A MAXIMUM OF 6 DUPLEX RECEPTACLES ON A 20A SINGLE POLE CIRCUIT.	
G7.WHERE THE 1010 SCOPE REVIEW, 1015 TECHNICAL REVIEW, DRAWINGS, AND SPECIFICATIONS DIFFER FROM AMERICAN CODES OR STANDARDS, THE 1010, 1015, DRAWINGS, AND SPECIFICATIONS SHALL RULE.	
G8.ALL CONDUIT AND DEVICES SHALL BE SURFACE MOUNTED UNLESS OTHERWISE INDICATED.	
G9.CONTRACTOR SHALL COORDINATE ALL WORK WITH ALL OTHER TRADES TO ENSURE ALL WORK IS COMPLETED IN A PROFESSIONAL, WORKMAN–LIKE MANNER.	



Rev.	Date	Description	Mark
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		Drawing code:	
		File name:	
		Plot date:	
		Plot scale:	

U.S. ARMY CORPS OF ENGINEERS AFGHANISTAN ENGINEER DISTRICT APO AE 96338	Designed by: JRG Dwn by: BUB Cdd by: JRG Reviewed by: JRG Submitted by: BAKER	Michael Baker Jr., Inc A unit of Michael Baker Corporation Arside Business Park 10000 Ardmore Blvd. North Wales, PA 19108 www.mbakercorp.com
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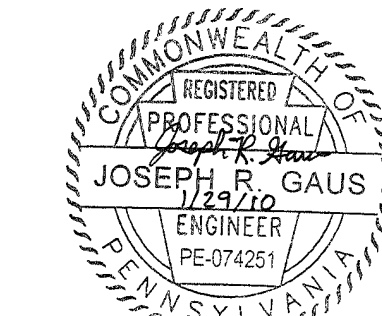
AFGHAN NATIONAL ARMY REGIONAL MILITARY TRAINING CENTER STANDARD DESIGN	FUEL OPERATORS BUILDING ELECTRICAL SYMBOLS & ABBREVIATIONS
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Sheet reference number:  
E–001

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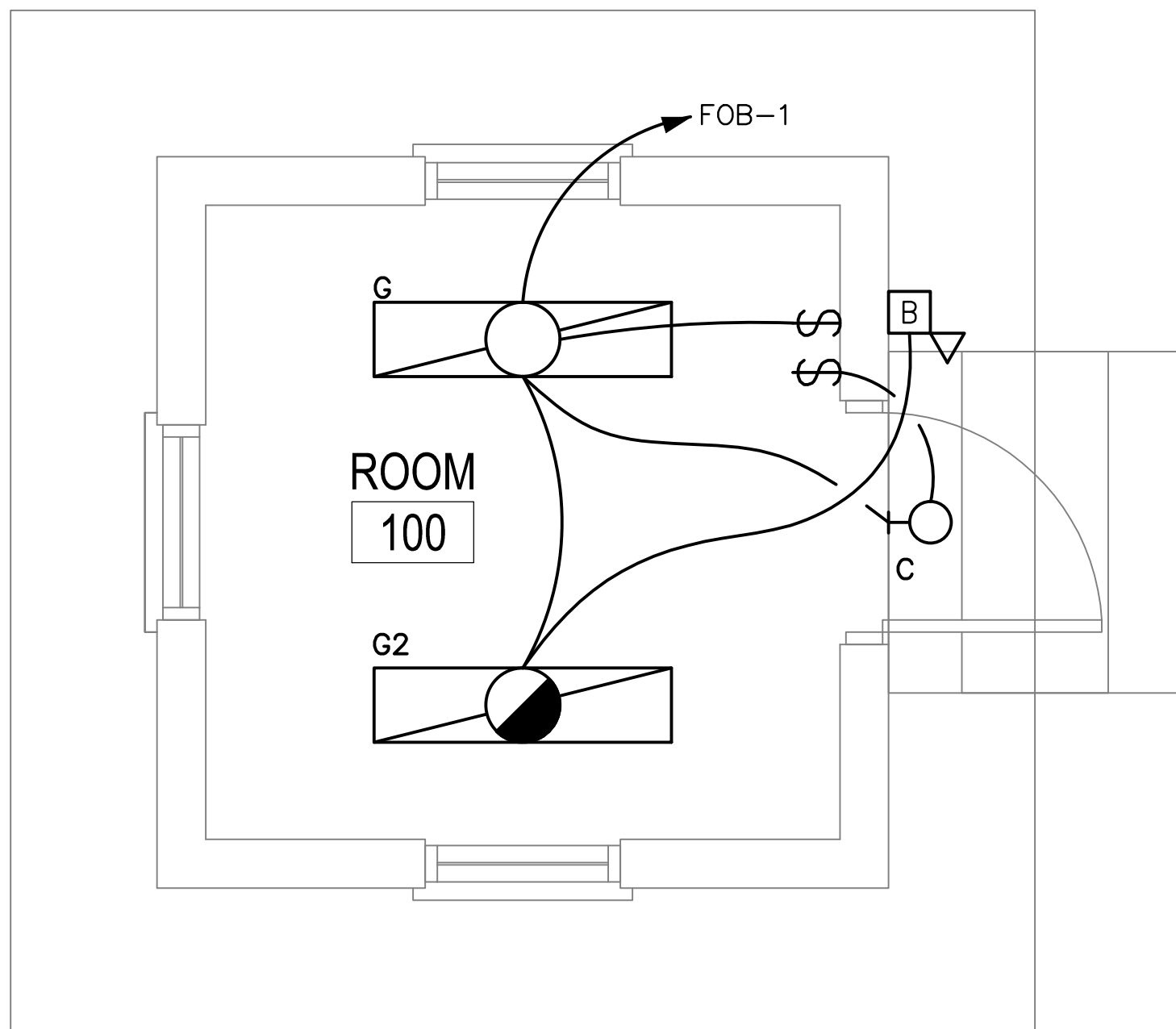


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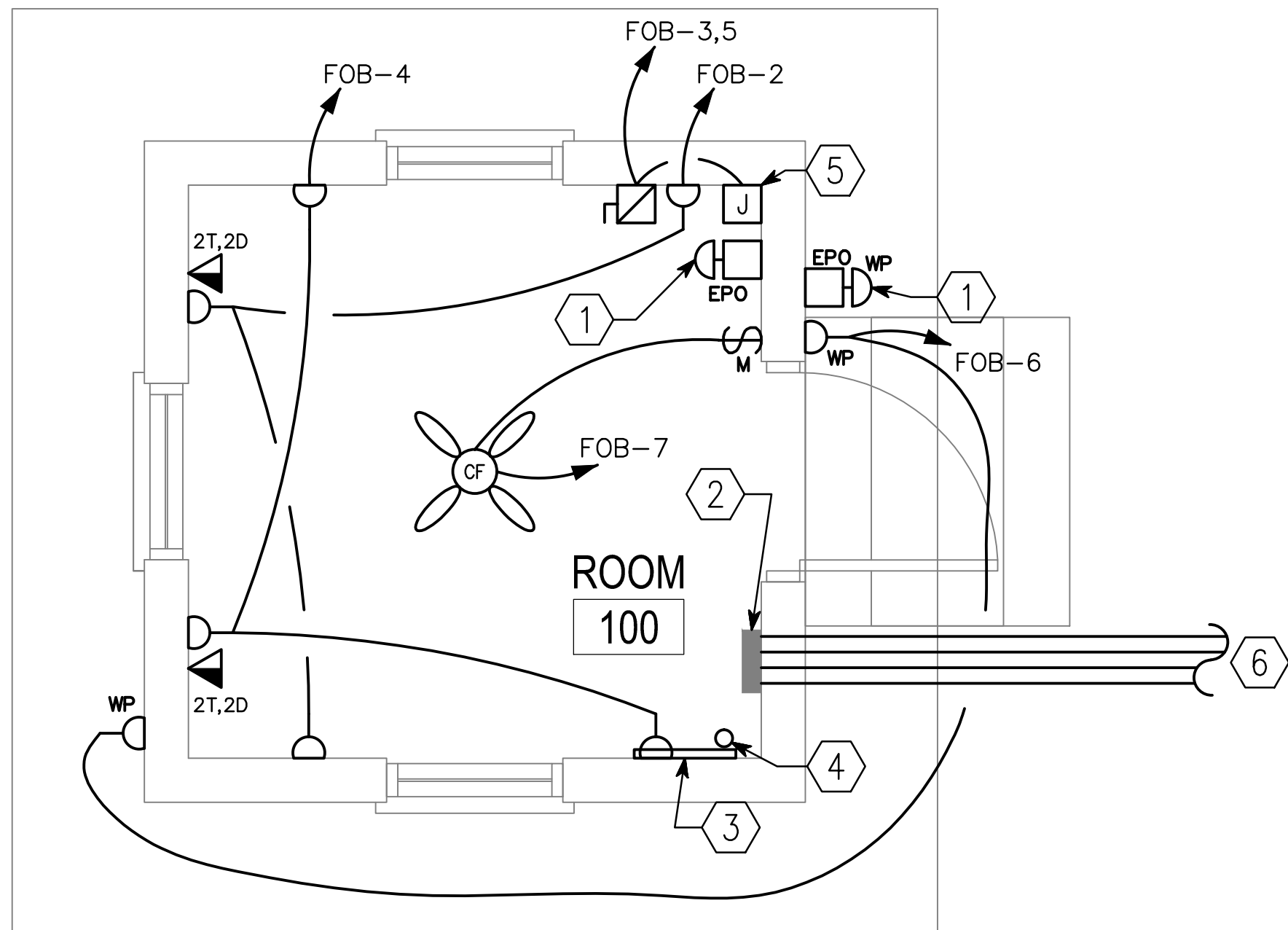
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1  
E-101

### FUELING OBSERVATION BUILDING FLOOR PLAN - LIGHTING

SCALE: 1:25



2  
E-101

### FUELING OBSERVATION BUILDING FLOOR PLAN - POWER AND SYSTEMS

SCALE: 1:25

#### GENERAL NOTES:

1. REFER TO DRAWING #E-001 FOR THE ELECTRICAL SYMBOLS LIST.
2. EXIT SIGNS SHALL BE WIRED AHEAD OF ANY LOCAL SWITCHING ON CIRCUITS.
3. REFER TO DRAWING #E-601 FOR THE LIGHTING FIXTURE SCHEDULE.
4. REFER TO DRAWING #E-501 FOR THE POWER RISER.
5. REFER TO DRAWING #E-602 FOR PANEL SCHEDULES.
6. LIGHT FIXTURES INDICATED AS EMERGENCY SHALL BE PROVIDED WITH A BATTERY BACKUP BALLAST. SEE WIRING DIAGRAM DETAIL 5, DRAWING #E-501.
7. COORDINATE EXACT MOUNTING LOCATION OF DISCONNECTING MEANS FOR MECHANICAL AND PLUMBING EQUIPMENT IN THE FIELD.
8. FUSIBLE SAFETY SWITCHES THAT ARE NOT OTHERWISE IDENTIFIED SHALL BE 380V, 1P, 30A FUSED SAFETY SWITCHES WITH 20A FUSES.

#### NUMBERED NOTES:

- 1 EMERGENCY POWER OFF SWITCH TO DISABLE FUEL DISPENSING EQUIPMENT.
- 2 PANEL FOB.
- 3 PROVIDE 1200mm X 2400mm SHEET OF PLYWOOD PAINTED WITH FIRE RESISTANT PAINT FOR MOUNTING TELECOMMUNICATIONS EQUIPMENT.
- 4 PROVIDE CONDUIT STUB UP IN THE ROOM FOR INCOMING TELECOMMUNICATIONS SERVICES FROM THE CENTRAL COMMUNICATIONS SYSTEM IN THE GARRISON.
- 5 PROVIDE POWER CONNECTION TO ELECTRIC UNIT HEATER #2. SEE DRAWINGS #M-101 AND #E-602 FOR MORE INFORMATION.
- 6 4 20mm CONDUIT RUNS TO CIRCUITS FEEDING POWER AND LIGHTING AT VEHICLE REFUELING POINT AND FUEL STORAGE. CONDUIT SHALL BE RMC/IMC WITH LISTED SEALS AND INSTALLED IN ACCORDANCE WITH NEC ART. 514.



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		Plot date:	
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Designed by: JRG	Rev. 0
Drawn by: BUB	Date: 2/23/10
Reviewed by: JRG	Design file no.
Submitted by: BAKER	Drawing code:
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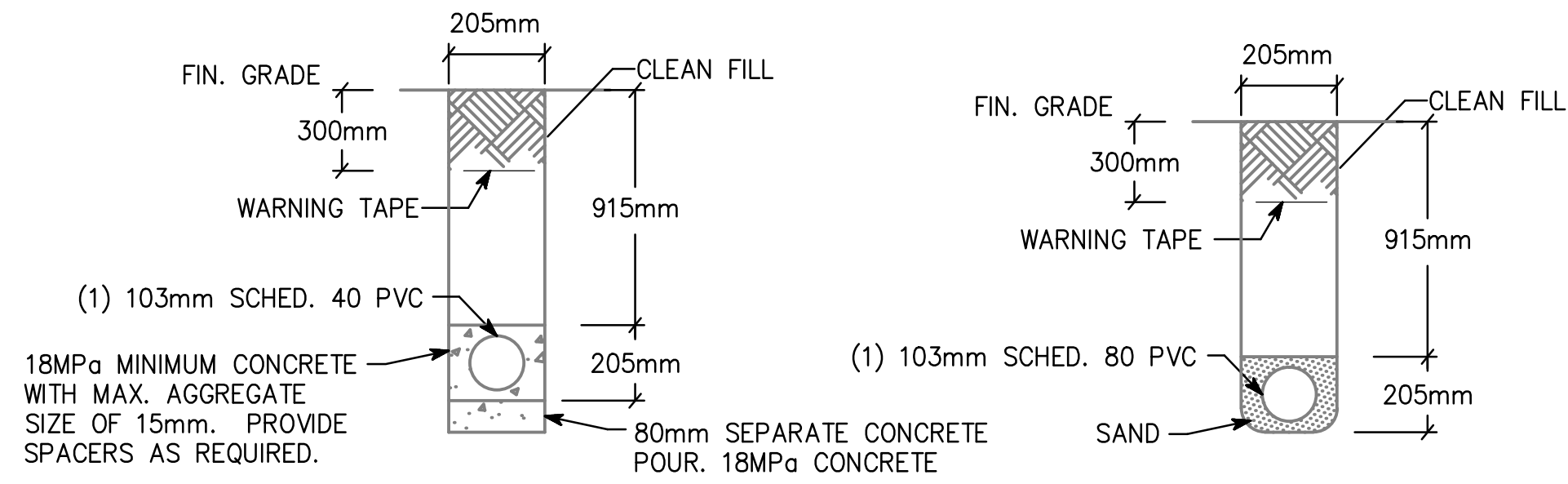
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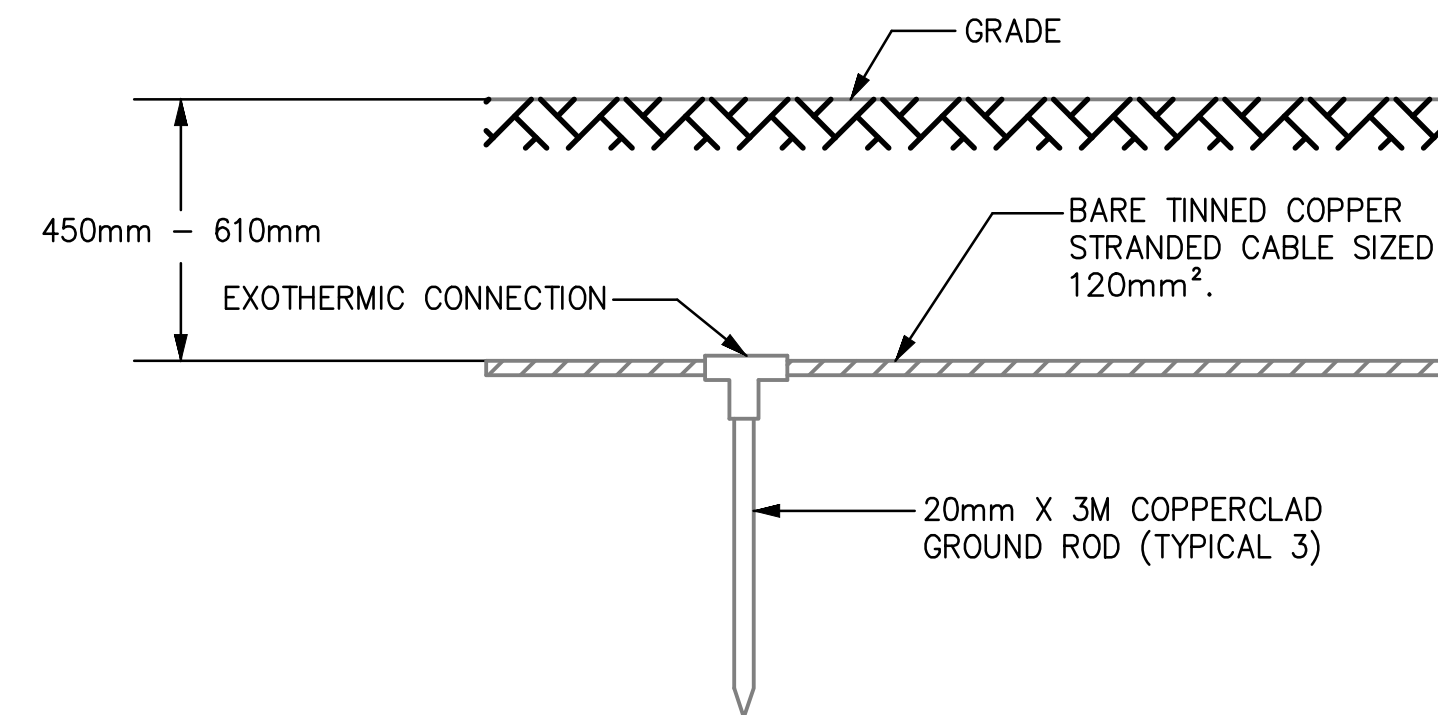


NOTE: PVC CONDUIT SHALL BE DIRECT BURIED SCHEDULE 80 FOR NO TRAFFIC AREAS AND CONCRETE-ENCASED SCHEDULE 40 FOR UNDER ROADWAYS OR TRAFFIC AREAS.

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E-501

TYPICAL DUCT BANK DETAILS FOR CONDUIT IN SAND OR CONCRETE

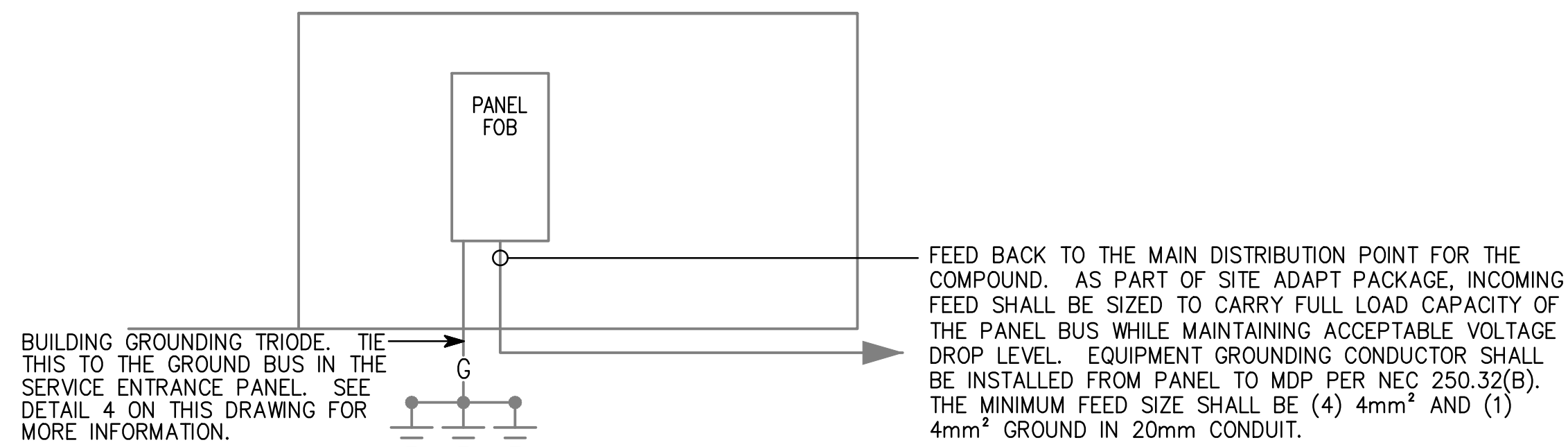
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2  
E-501

GROUND TRIPOD SYSTEM DETAIL - ELEVATION

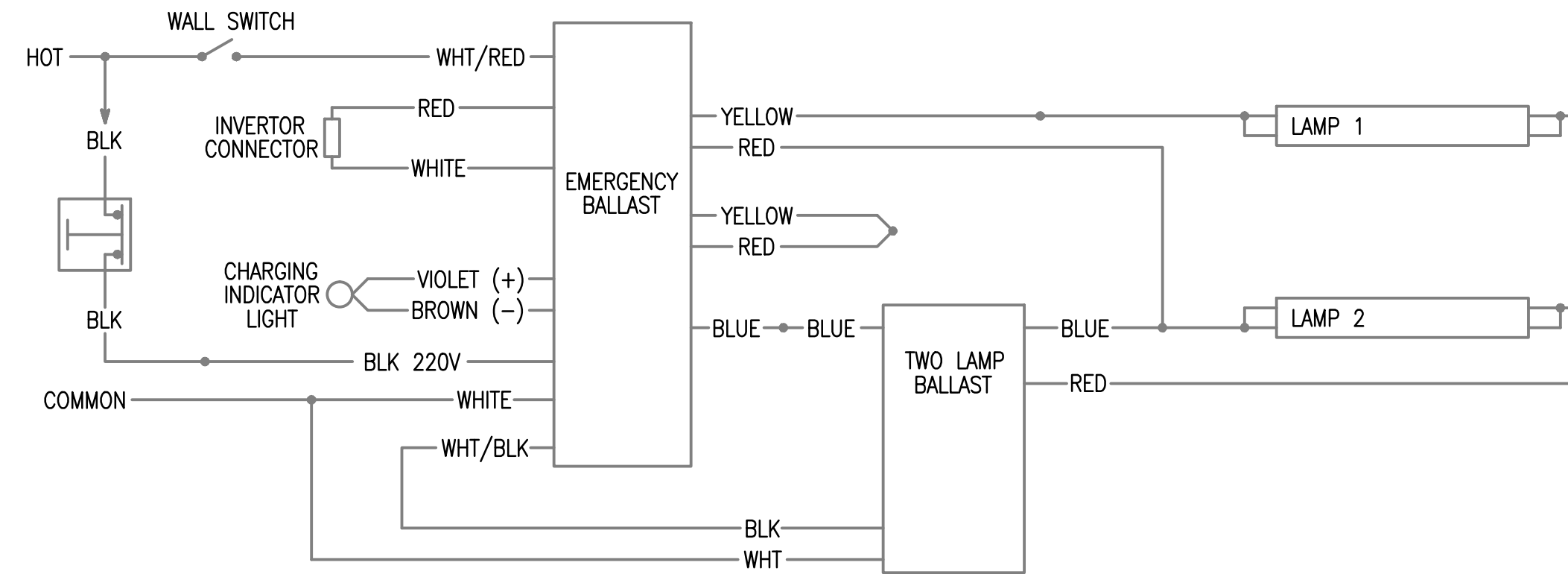
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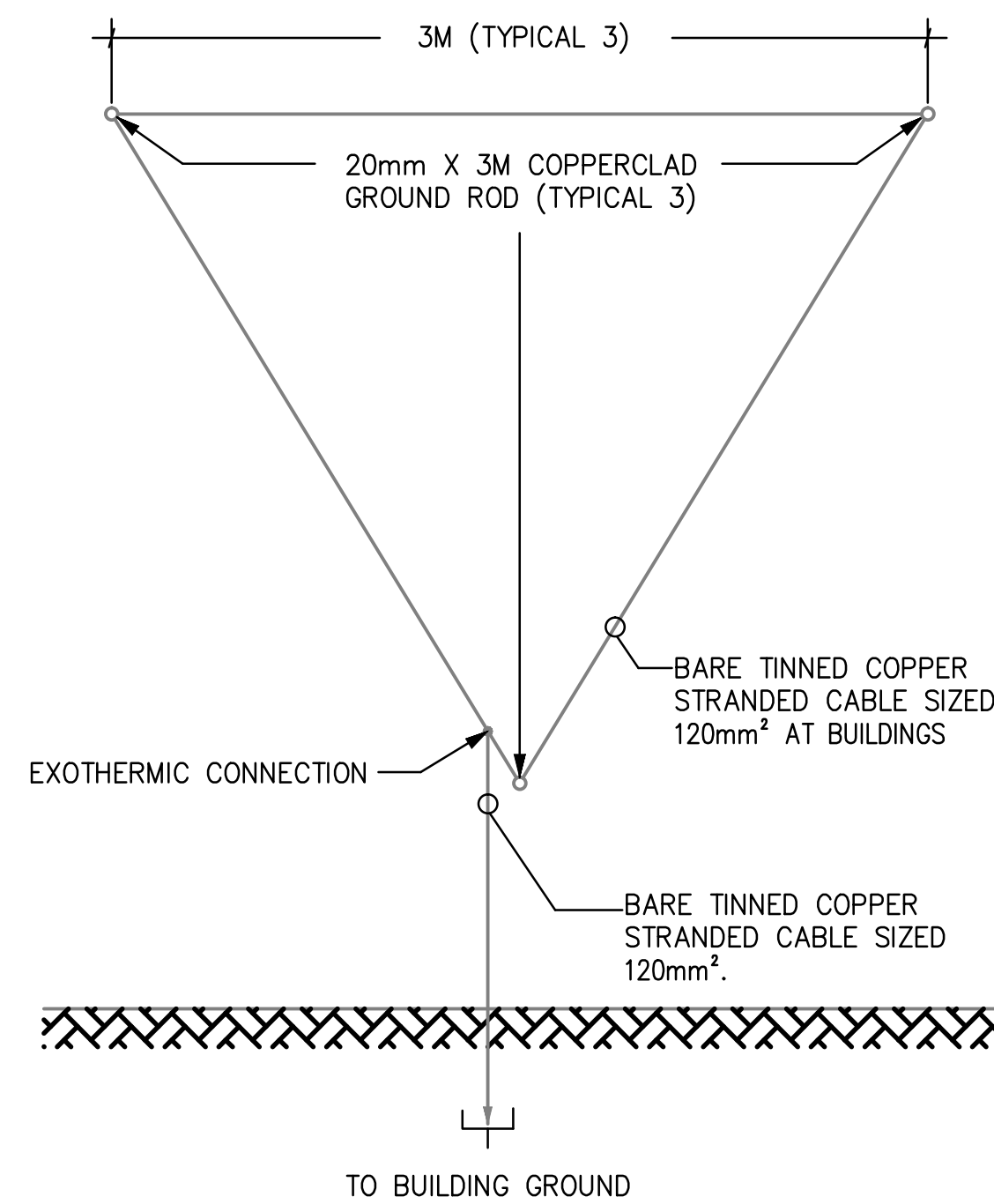
3  
E-501

FOB RISER DIAGRAM

SCALE: N.T.S.



# 5 E-501 EMERGENCY FIXTURE WIRING DIAGRAM SCALE: N.T.S.



# GROUND TRIPOD SYSTEM DETAIL - PLAN

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U.S. Army Corps of Engineers AFGHANISTAN ENGINEER DISTRICT	Drawn by: <b>JRG</b>	Created by: <b>JRG</b>	Drawing code: <b>JRG</b>	File name: <b>223410</b>	Plot scale: <b>1:0</b>
<p><b>Michael Baker Corp., Inc.</b>  <i>A unit of Michael Baker Corporation</i>          100 Atlantic Drive          Moon Township PA 15108  <a href="http://www.michaelbaker.com">www.michaelbaker.com</a></p>					

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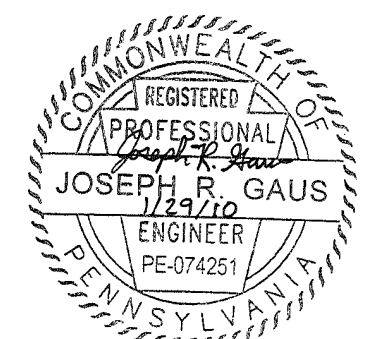
FUEL OPERATORS BUILDING  
ELECTRICAL DETAILS

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E-501

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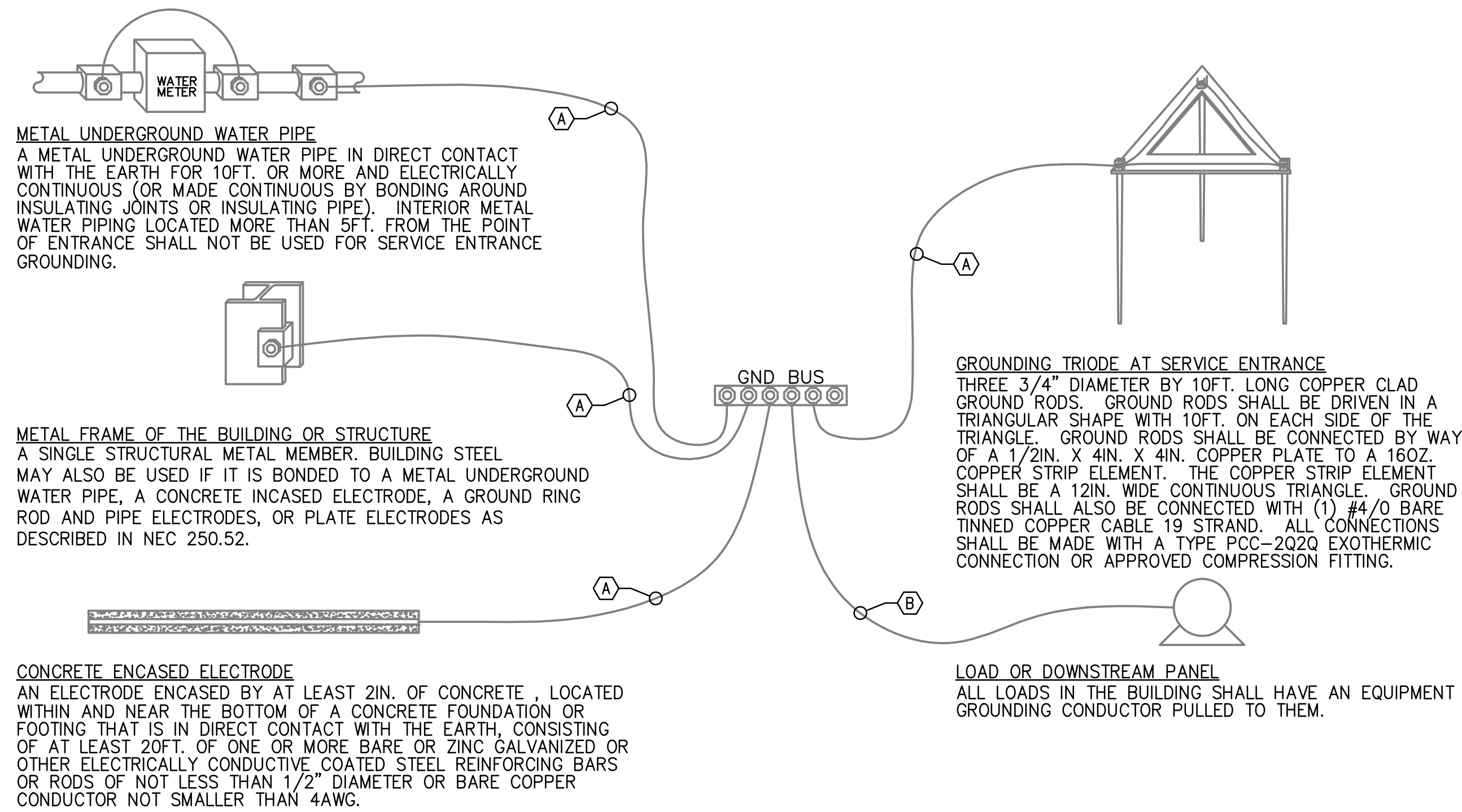
A/E DESIGNER OF RECORD

SEAL:



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(A) LARGER OF THE TWO SIZES GIVEN IN THE TABLES BELOW		(B) EQUIPMENT GROUNDING CONDUCTOR
GROUNDING ELECTRODE CONDUCTOR (BASED ON AIC RATING)		RATING OR SETTING OF AUTOMATIC OVERCURRENT DEVICE IN CIRCUIT AHEAD OF EQUIPMENT, CONDUIT, ETC, NOT EXCEEDING (AMPERES)
AIC RATING OF SERVICE EQUIPMENT	NECESSARY GROUNDING ELECTRODE CONDUCTOR SIZE	NECESSARY EQUIPMENT GROUNDING CONDUCTOR SIZE
10K	(1) 35mm <sup>2</sup>	15
14K	(1) 50mm <sup>2</sup>	20
18K	(1) 70mm <sup>2</sup>	30
22K	(1) 70mm <sup>2</sup>	40
25K	(1) 70mm <sup>2</sup>	60
30K	(1) 95mm <sup>2</sup>	100
35K	(1) 120mm <sup>2</sup>	200
42K	(1) 150mm <sup>2</sup>	300
65K	(1) 185mm <sup>2</sup>	400
100K	(1) 300mm <sup>2</sup>	500
125K	(2) 185mm <sup>2</sup>	600
200K	(2) 300mm <sup>2</sup>	800
GROUNDING ELECTRODE CONDUCTOR (BASED ON NEC TABLE 250.66)		1000
SIZE OF LARGEST UNGROUND SERVICE CONDUCTOR OR EQUIVALENT AREA FOR PARALLEL CONDUCTORS		1200
		1600
		2000
		2500
		3000
350 kcmil OR SMALLER		4000
OVER 350 kcmil TO 600 kcmil		5000
OVER 600 kcmil TO 1100 kcmil		6000
OVER 1100 kcmil		
NOTE: ALL SIZES ARE BASED ON COPPER CONDUCTORS.		



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ENGINEER DISTRICT

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<i>Michael Baker, Inc.</i> A unit of <i>Michael Baker Corporation</i> Aetide Business Park 10000 Aetide Drive Moon Township, PA 15108 www.mbakercorp.com			
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Date: 2/23/10	Design file no.		
Rev: 0			

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STANDARD DESIGN

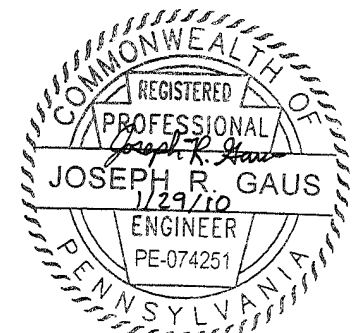
FUEL OPERATORS BUILDING  
ELECTRICAL DETAILS

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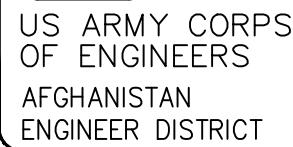


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E-502



\* MAIN BREAKER SHALL BE 3P EARTH GROUND TYPE  
\*\* SEE THE VEHICLE REFUELING POINT PACKAGE FOR CONNECTION TO THE VEHICLE REFUELING POINT (VRP) AND THE VEHICLE REFUELING POINT FUEL STORAGE AREA (VRP FS).



U.S. ARMY CORPS OF ENGINEERS AFGHANISTAN ENGINEER DISTRICT	Designed by: JRG	Date: 2/23/10	Revised: 0
	Dwn by: BIM	Design file no.	
	Ord by: JRG		
<i>Michael Baker Corp.</i> A unit of <i>Michael Baker Corporation</i>	Reviewed by: JRG	Drawing code:	
Aside Business Park 100 Arside Drive www.mbakercorp.com	Submitted by: BAKER	File name: Plot date: Plot scale:	

Sheet  
reference  
number:  
E-602


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The seal is circular with a double-lined border. The outer ring contains the text "COMMONWEALTH OF PENNSYLVANIA" at the top and "PENNSYLVANIA" at the bottom, separated by a decorative wreath. The inner circle contains the text "REGISTERED PROFESSIONAL" at the top, "JOSEPH R. GAUS" in the center, "1/29/10" below the name, "ENGINEER" below the date, and "PE-074251" at the bottom.